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ABSTRACT

Approximately 20,000 eighth-and eleventh-grade students in Texas were tested on nine career education objectives: (1) career planning and decision making: (2) occupational information: (3) job acquisition and retention: (4) work attitudes: (5) human relations skills: (6) self evaluation: (7) personal responsibilities: (8) economic factors: and (9) education-career relationship. The same test was administered to both age groups: mastery of the objective category was achieved when the student correctly answered four of the five items covering that objective. Performance was judged to be adequate, less than adequate, or deficient, according to the percentage of students achieving mastery. Greater mastery was expected from the eleventh-grade students. Test results were analyzed according to the total statewide population: the twenty geographic regions of Texas: and a number of student characteristics (ethnic group, sex, family income, and language spoken at home). Type and size of school district, reading materials in the home, homework, television viewing, grades, parental education, educational aspiration, and enrollment in special or compensatory education programs were also studied. (A summary of student performance is presented for each of the analyses made, as well as data gathered from questionnaires administered to students and principals). (GDC)

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CAREER EDUCATION

A STATEWIDE ASSESSMENT IN TEXAS

ED183603

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TEXAS ASSESSMENT PROJECT
Texas Education Agency, Austin, 1979

TEXAS EDUCATION AGENCY

CAREER EDUCATION

A STATEWIDE ASSESSMENT IN TEXAS

TEXAS EDUCATION AGENCY

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FOREWORD

During the 1977-78 school year, the Texas Assessment Project (TAP) was developed to assess student learning in reading, writing, mathematics, and citizenship. The results were reported to the State Board of Education in November of 1978 and to the Texas Legislature in January of 1979. A series of five reports containing the assessment results and a summary were published by the Texas Education Agency and distributed to all school districts in the state early in 1979.

Phase II of the Texas Assessment Project was conducted by the Agency during the 1978-79 school year. This phase of TAP was designed to measure student achievement in career education and economic education. Although not required by statute, career education was adopted as a priority of the State Board of Education in 1972 and has been emphasized by the Texas Education Agency since that time.

This report contains three sections. Section I describes the career education measurement instrument administered to students in April and May of 1979, the sampling design, and test administration procedures. Section II contains the results of testing students with the recently developed career education assessment instrument. Student attainment is reported in terms of the nine major career education categories identified in *Basic Learner Outcomes for Career Education*, published by the Texas Education Agency. Section III describes career education implementation efforts in Texas high schools as reported through questionnaires completed by high school principals and eleventh grade students.

CONTENTS

BACKGROUND 1

SECTION I—MEASURING CAREER EDUCATION 2

The Measurement Instrument 2
Student Samples 3
Test Administration 3
Special Considerations 3
Student Performance Levels 4

SECTION II—STUDENT PERFORMANCE RESULTS 6

Statewide Results 6
Regional Results 10
Results by Selected Subpopulations 14

Sex 14
Ethnicity 17
Type and Size of School District 21
Family Income 21
Reading Materials in the Home 21
Homework 22
Language Spoken in the Home 22
Time Spent Watching Television 22
Grades Reported by Eleventh Graders 23
Educational Levels of Parents and Educational Expectations of Students 23
Student Populations with Special Learning Characteristics 23

Comparison of Performance Scores by Selected Subpopulations 25
Summary of Findings on Student Performance 41

SECTION III—PROGRAM INFORMATION 44

Descriptive Program Information—Principals' Responses 44
Descriptive Program Information—Student Responses 47
Summary of Information from Principals and Students 53

CONCLUSION 55

APPENDICES

Appendix A 57
Definitions of Reporting Groups

Appendix B 61
Data Tables—Student Performance

Appendix C 66
Texas Assessment Project Pupil Information

Appendix D 67
Tailsheet Information (Completed by Student)

Appendix E 69
Principals' Questionnaire Items

Appendix F 71
Student Questionnaire Items

Appendix G 72
Data Tables—Program Information

Appendix H 76
Method to Compute Performance Score

Appendix I 77
The CEMS Survey Test

TABLES AND FIGURES

TABLES		PAGE
Table I	Percent of Students Mastering a Specified Number of Career Education Categories	9
Table II	Career Education Eighth Grade Test Results by Region	12
Table III	Career Education Eleventh Grade Test Results by Region	13

Figures

Figure 1	Percent of Eighth Grade Students Mastering Career Education Categories	7
Figure 2	Percent of Eleventh Grade Students Mastering Career Education Categories	8
Figure 3	Twenty Education Service Center Regions of Texas	10
Figure 4	Percent of Eighth Grade Students Mastering Career Education Categories for Males and Females	15
Figure 5	Percent of Eleventh Grade Students Mastering Career Education Categories for Males and Females	16
Figure 6	Proportion of Students in Each Ethnic Category at the Eighth and Eleventh Grades	17
Figure 7	Percent of Eighth Grade Students Mastering Career Education Categories by Ethnic Group	18
Figure 8	Percent of Eleventh Grade Students Mastering Career Education Categories by Ethnic Group	20
Figure 9	Grade Eight Performance Scores by Family Income and Reading Materials in the Home	27
Figure 10	Grade Eleven Performance Scores by Family Income and Reading Materials in the Home	27
Figure 11	Grade Eleven Performance Scores by Family Income and Average Grades	28
Figure 12	Grade Eight Performance Scores by Ethnic Group and Family Income	29

Figure 13 Grade Eleven Performance Scores by Ethnic Group and Family Income 30

Figure 14 Grade Eight Performance Scores by Ethnic Group and Type of School District 31

Figure 15 Grade Eleven Performance Scores by Type of School District and Ethnic Group 32

Figure 16 Grade Eight Performance Scores by Ethnic Group and Hours of Homework Completed 33

Figure 17 Grade Eleven Performance Scores by Ethnic Group and Hours of Homework Completed 34

Figure 18 Grade Eight Performance Scores by Ethnic Group and Amount of Reading Materials in the Home 35

Figure 19 Grade Eleven Performance Scores by Ethnic Group and Amount of Reading Materials in the Home 36

Figure 20 Grade Eight Performance Scores by Sex and Amount of Homework Completed 37

Figure 21 Grade Eleven Performance Scores by Sex and Amount of Homework Completed 37

Figure 22 Grade Eight Performance Scores by Ethnic Group for Males and Females 38

Figure 23 Grade Eleven Performance Scores by Ethnic Group for Males and Females 39

Figure 24 Grade Eleven Performance Scores by Ethnic Group and Average Grades 40

Figure 25 Percentages of High School Principals Responding Affirmatively to Questions Related to Career Education Implementation 45

Figure 26 Percentages of High School Principals Indicating that Career Education Inservice Training has been Provided to School Staff 46

Figure 27 Percentages of Eleventh Grade Students Responding Affirmatively to Questionnaire Items Related to Student Initiative 48

Figure 28 Percentages of Eleventh Grade Students Responding Affirmatively to Questionnaire Items About the Career Education Test and Course Work Relationship 50

Figure 29 Percentages of Eleventh Grade Students Rating Their High School Experience and Course Work as Helpful 51

BACKGROUND

In 1972, the State Board of Education established career education as one of its priority areas of concern. The Texas Education Agency responded to this Board action by appointing an Agency steering committee and assigning to it responsibility for conducting a statewide assessment to measure student performance in career education. As the steering committee planned for the assessment, it became evident that there did not exist a well-defined picture of what students should know and what should be accomplished by career education. Therefore, the first activities of the steering committee were directed toward the development of objectives or student outcomes that should result from an effective career education program. More than 6,000 individuals (students, parents, educators, and representatives of the business and industrial community) participated in a statewide survey to identify community perceptions of career education in terms of the attitudes, knowledge, and skills that 17-year-old students should possess. Analysis of the results showed a strong consensus existed across the state favoring 177 career education-related student outcomes. These were published by the Agency in 1973 as *Basic Learner Outcomes for Career Education* and distributed widely to provide school officials with an operational definition of career education.

Further preparatory actions for statewide assessment continued through 1974. The Agency contracted with a commercial test company to design measurement instruments for the basic learner outcomes. Test items were developed and field tested. The accumulated data from testing approximately 15,000 Texas students were reviewed and analyzed, with particular emphasis on eliminating items which indicated cultural or sex bias. More than 500 items which were judged to be adequate were selected for assessment purposes.

Seventeen separate assessment instruments were designed to create the Career Education Measurement Series (CEMS). The CEMS tests were administered to a statewide sample of more than 26,000 ninth and twelfth grade students in 1975 and the results reported to the State Board of Education and school officials throughout the state in 1976.*

The current *Texas Statewide Plan for Implementing Career Education* published in July 1978, emphasizes the continued appropriateness of the basic learner outcomes and relates them to program objectives and accreditation procedures in the schools. It is important to obtain information about student achievement as the outcome of an educational program. Having gained such information about student performance, decisions can then be made as to whether the program should be changed to improve its effectiveness and, if so, what programmatic changes would have probability of strengthening the program. It is in this spirit, and for this purpose, that the assessment has been undertaken—to provide information to be used in local, regional, and state planning for strengthening career education activities, and improving student achievement.

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*The Career Education Measurement Series (CEMS) Survey Test, 1975, was administered to samples of eighth and eleventh grade students during this assessment. The results are shown in Appendix I.

SECTION I

MEASURING CAREER EDUCATION

THE MEASUREMENT INSTRUMENT

The 1979 career education test is designed to measure student achievement in the nine major categories of career education identified in *Basic Learner Outcomes for Career Education*. The test contains 45 test items, five for each of the nine categories. The criterion for mastery of each category is that the student answer correctly at least four of the five test items.

The nine career education categories, together with a description of the competencies the student is expected to master, are listed below:

1. *Career Planning and Decision Making*—Goal setting; understanding the importance of a career planning process; using assistance in decision making; career choice

2. *Career and Occupational Information*—Identification of sources of information; obtaining information about careers

3. *Job Acquisition and Retention*—Skills to locate and interview for a specific job; skills and understandings to remain employed

4. *Attitudes and Appreciation for Career Success*—Attitudes toward work; appreciation of the importance of accomplishing tasks

5. *Skills in Human Relationships for Careers*—Interpersonal relationships; group dynamics; human relationship skills

6. *Self-Investigation and Evaluation for Career Success*—Examination of oneself in relation to careers; assessment of self-concept; appraisal of interests and capabilities

7. *Personal/Work/Societal Responsibilities*—Effective citizenship; relationship with and responsibilities to others and jobs

8. *Economic Factors Influencing Career Opportunity*—Understanding how various economic conditions affect a person; understanding how a person interacts in the economy

9. *Education/Career Opportunity Relationships*—Understanding the relationship of education of career opportunities and to specific job requirements; attitude toward education or learning and career opportunities

Test items were selected from the bank of available items developed in 1975 under a contract with Measurement Research Center of the Westinghouse Learning Corporation. The process of selecting items for the test included a review of all the items in the item bank by an Agency committee composed of content specialists and identification of those items

that were congruent with, and representative of, each of the nine categories. The Agency committee formed to review the items and construct the test included representatives from: Career Education, Occupational Education and Technology, Urban Education, Curriculum Development, Student Services and Instructional Coordination, Special Populations, Information Analysis, and Educational Assessment.

STUDENT SAMPLES

The sampling plan for the 1979 assessment was designed under the provisions of an Agency contract with Research Triangle Institute (RTI) of Raleigh-Durham, North Carolina. Two samples were drawn, one for grade eight and one for grade eleven. No student took more than one test.

The sampling pattern was designed to provide reliable information on student performance statewide and within each of the 20 regions served by an education service center. The samples were not designed to be representative of any school district, campus, or classroom.

Approximately 10,500 of the estimated 202,000 eligible eighth grade students in the state were selected for testing. For the eleventh grade, approximately 9,500 of an estimated 181,000 eligible students were selected.

TEST ADMINISTRATION

The test was administered by trained test administrators. This procedure reduced the burden on school personnel and ensured uniform administration. A contract to conduct the testing was awarded by the Agency to Research Triangle Institute. During April and May of 1979, more than 1,100 career education testing sessions were conducted in schools across the state.

SPECIAL CONSIDERATIONS

When reviewing the assessment results, several factors should be kept in mind:

- The sampling procedures permit reporting, with a high level of statistical precision and confidence, that the findings represent performance of all eighth and eleventh graders in the public schools of Texas.
- These results can be used to identify successes and problem areas in student attainment on a statewide basis, within each of the 20 regions of the state, and for selected subpopulations of students. No information is available from this sample that can responsibly be used to make judgments about the performance of any school district, school campus, educational program, teacher, or individual student.
- The findings are based on a single measurement or assessment taken in 1979, and do not purport to show longitudinal comparisons. To measure change in the achievement of students, performance data must be gathered over a period of time either from the same students or from comparable samples.

- Conventional methods were used to determine statistical significance of differences between scores of groups of students, and statistically significant differences were used as the basis for the findings in this report. The methodology for determining statistical significance, including sample sizes, is contained in the technical documentation of this assessment.

STUDENT PERFORMANCE LEVELS

Student performance is reported as either (1) the percentage of students who demonstrated mastery of each career education category, or (2) the proportion of categories mastered by a group of students. To demonstrate mastery, a student must answer correctly at least four of the five test items for a category.

For the first method of reporting, three performance levels have been designated for interpreting group performance on the nine career education categories.

Performance levels have been established for eighth and eleventh grade students in recognition of the following:

- The learner outcomes contained in each of the nine categories measured by the test are exit level (17-year-old) objectives.
- The same test instrument was administered to students in both grades.

Eighth Grade Performance Levels:

Level I—Category mastered by 75 percent or more of the students

Level II—Category mastered by 50 to 74 percent of the students

Level III—Category mastered by fewer than 50 percent of the students

Eleventh Grade Performance Levels:

Level I—Category mastered by 90 percent or more of the students

Level II—Category mastered by 75 to 89 percent of the students

Level III—Category mastered by fewer than 75 percent of the students

For Both Grades:

Level I performance indicates that achievement of a group of students is adequate.

Level II performance is considered to be less than adequate but does not necessarily indicate a deficiency of high priority.

Level III performance is considered to indicate a significant deficiency that may require priority attention.

The second method of reporting student performance is explained on page 25 and in Appendix H.

SECTION II

STUDENT PERFORMANCE RESULTS

This section contains the student performance results obtained from administration of the career education test to representative samples of eighth and eleventh grade students in Texas. Test results are reported in two different formats for different types of student populations. First, student performance results are reported in terms of a profile of student mastery for each of the nine career education categories for the following student populations:

- total statewide population
- student subpopulations by geographic region
- student subpopulations defined by a single demographic characteristic, such as ethnicity, sex, family income status, or language spoken in the home.

Second, for reporting results for student populations defined by two demographic characteristics—such as ethnicity *and* sex, or type of school district *and* ethnicity—the reporting format is changed from a profile to a single index that represents performance on all nine career education categories collectively. This index has been termed the "performance score." The method of computing this score is described in Appendix H. Appendix B contains tables displaying student performance data for the various subpopulations which are discussed in this section and from which the findings about the students were drawn from these tables.

STATEWIDE RESULTS

Figures 1 and 2 display the percentages of students statewide who demonstrated mastery of the nine career education categories arranged in descending order according to the percentage of students mastering each category.

PERCENT OF EIGHTH GRADE STUDENTS MASTERING CAREER EDUCATION CATEGORIES

Statewide Results

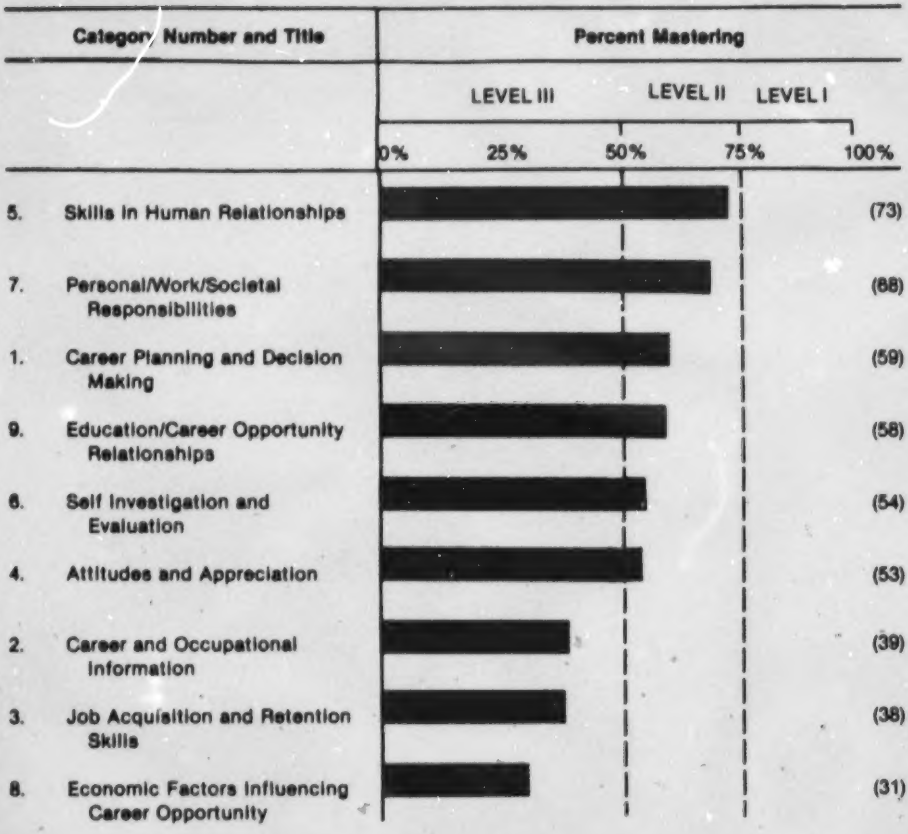


Figure 1

PERCENT OF ELEVENTH GRADE STUDENTS MASTERING CAREER EDUCATION CATEGORIES

Statewide Results

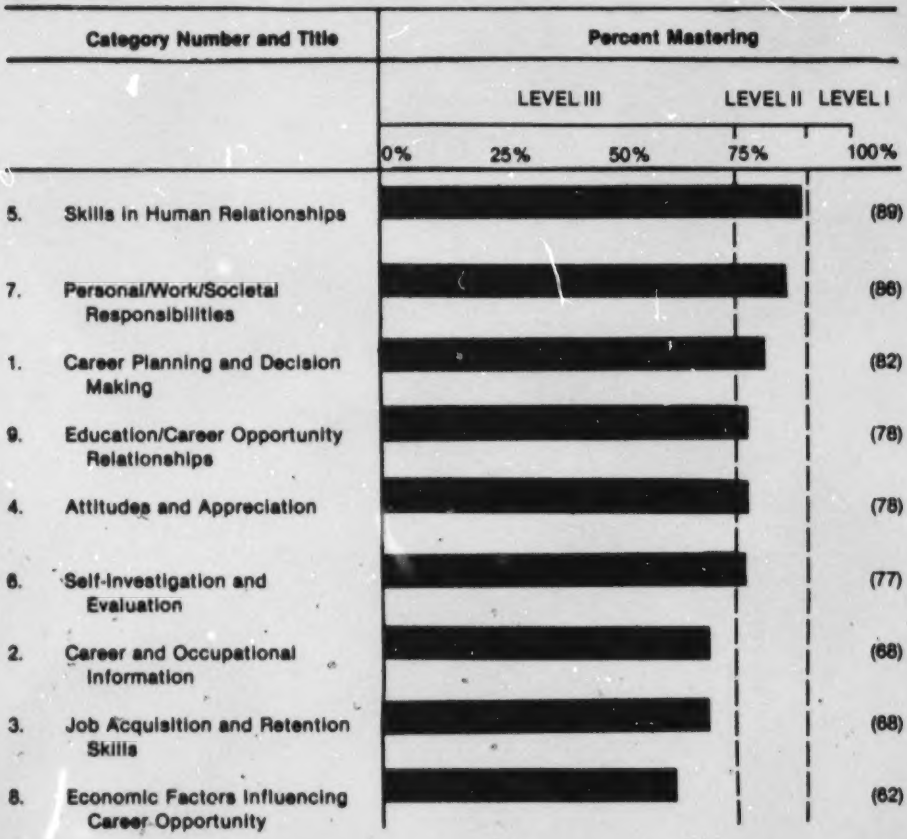


Figure 2

For both eighth grade and eleventh grade students, categories of lowest performance (Level III) were:

- Economic Factors Influencing Career Opportunity
- Job Acquisition and Retention Skills
- Career and Occupational Information

While the percentages of eleventh grade students mastering each of the categories was 16 to 31 percentage points higher than those of eighth grade students, the profile of the performance of students at grade eight was very similar to that of students at grade eleven.

In addition to the percentages of students mastering each of the career education categories, it is useful to observe the proportions of students who mastered all nine categories in comparison with those who mastered fewer categories. Table I shows the percentages of students who demonstrated mastery of specified numbers of categories. The results indicate that more than one-half of the state's eighth graders and more than four-fifths of eleventh graders mastered at least five of the categories. More than one-third of the eleventh graders mastered all nine of the categories and more than two-thirds mastered seven.

TABLE 1

PERCENT OF STUDENTS MASTERING A SPECIFIED NUMBER OF CAREER EDUCATION CATEGORIES

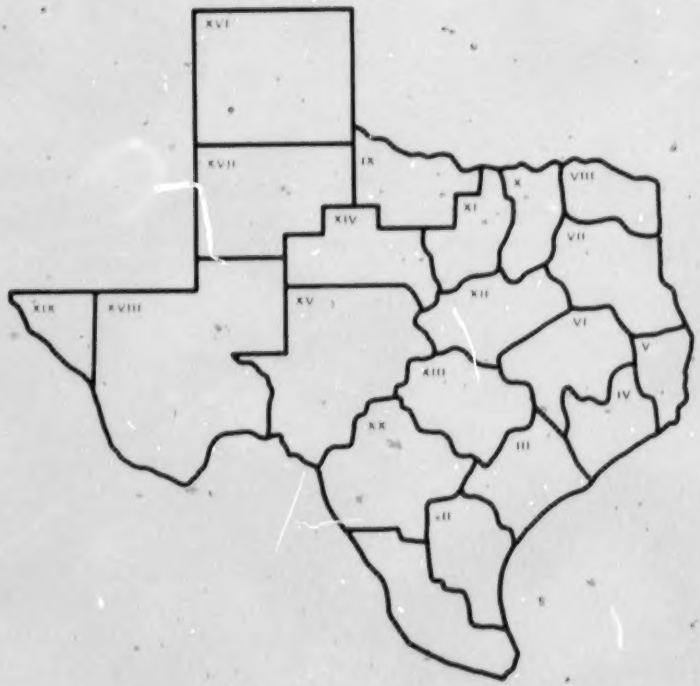
Number of Categories Mastered	Percent of Eligible Students Mastering	
	Grade 8	Grade 11
At least 1	92	97
At least 2	82	95
At least 3	73	91
At least 4	64	88
At least 5	55	83
At least 6	45	76
At least 7	33	68
At least 8	21	56
All 9	9	36

REGIONAL RESULTS

When reviewing student performance results in the geographical regions of the state, it is important to remember that an education service center has no authority over school districts in its geographic region. The regional education service centers provide a broad range of planning and curriculum assistance, inservice training, instructional media, and other services to school districts within their regions. Since school districts participate in service center activities on a voluntary basis, the findings about student performance in a region cannot be viewed as an evaluation of the effectiveness of the regional education service center. The purpose of reporting results for each region is to provide information that each education service center can use in designing and providing services appropriate to the identified needs of school districts in the region.

Figure 3 shows the geographic areas of Texas served by the 20 regional education service centers.

TWENTY EDUCATION SERVICE CENTER REGIONS OF TEXAS



20 FIGURE 3

When reviewing student performance by geographic region, consideration should be given to the ethnic composition, economic status, and size of the student population in the region. Tables II and III contain the results of student testing in the 20 education service center regions. In most of the 20 regions, the performance of both eighth and eleventh grade students corresponded closely to the statewide pattern. In several regions, however, student performance varied significantly from statewide results.

The percentages of eighth grade students demonstrating mastery of the categories were significantly above statewide results in several regions:

- Region IX, above on five categories
- Region IV, above on six categories
- Region XVI, above on seven categories

Eighth graders in two regions performed significantly below statewide results:

- Region I, below on seven categories
- Region II, below on nine categories

The percentages of eleventh grade students demonstrating mastery of the categories were significantly above statewide percentages on five categories in regions XI and XIV. Eleventh graders in three regions performed significantly below statewide results:

- Region I, below on seven categories
- Region VII, below on five categories
- Region XIX, below on four categories

TABLE II
CAREER EDUCATION
EIGHTH GRADE TEST RESULTS BY REGION

Categories		Statewide Results	Education Service Center Regions																		
			I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX
1. Career Planning and Decision Making		59	50*	48*	58	63*	62	57	63	61	71*	58	63	62	61	59	58	69*	56	58	57	55
2. Career and Occupational Information		39	25	29*	39	42	41	37	44	38	47*	41	39	43	41	39	38	45	37	36	36	33*
3. Job Acquisition and Retention Skills		38	24*	30*	40	44*	43	38	43	39	45*	40	40	40	36	39	39	49*	35	37	35	30*
4. Attitudes and Appreciation for Career Success		53	41*	45*	50	59*	57	52	55	57	59	53	54	58	57	51	56	60*	53	49*	47*	50
5. Skills in Human Relationships		73	63*	65*	75	76*	75	72	75	73	76	73	74	72	71	76	76	76	74	69	72	69
6. Self-Investigation and Evaluation		54	46*	46*	54	58*	54	51	60*	57	58	49*	56	52	51	51	56	63*	53	57	51	52
7. Personal/Work/Societal Responsibilities		68	65	62*	71	71	70	66	72	73*	73*	64	70	71	68	69	69	75*	71	70	66	65
8. Economic Factors Influencing Career Opportunity		31	22*	22*	36*	35*	28	27	36*	33	35	29	35*	31	31	28	30	39*	29	33	28	29
9. Education/Career Opportunity Relationships		58	48*	48*	58	61	63	55	59	61	65*	57	64*	61	60	58	59	66*	58	57	58	54*
STUDENT POPULATION TOTAL NUMBER (IN THOUSANDS)		226.7	12.2	8.5	4.4	46.8	7.4	7.0	10.8	4.2	3.2	30.8	18.5	7.8	11.3	3.8	3.7	6.0	7.1	5.8	8.8	20.4
Ethnic Proportions by Percent**	Black	15.8	0	4	14	25	29	20	26	26	8	23	13	19	12	6	3	5	9	6	3	7
	Mexican American	25.4	88	62	32	14	2	6	2	2	7	9	7	10	25	18	38	19	38	32	68	55
	Other***	58.8	11	34	54	61	69	73	71	71	85	68	80	71	63	76	59	76	52	62	29	38

*Indicates that the percentage figure shown is above or below the statewide percentage and the difference in the two is statistically significant.

**Percent figures do not equal 100% due to rounding.

***The other group is composed almost entirely of white students (more than 99%).

TABLE III
CAREER EDUCATION
ELEVENTH GRADE TEST RESULTS BY REGION

Categories		Statewide Results	Education Service Center Regions																			
			I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI	XVII	XVIII	XIX	XX
1. Career Planning and Decision Making		82	78	79	81	84	82	82	76*	79	86	83	87*	85	87*	90*	86	87*	80	83	78	76*
2. Career and Occupational Information		68	57*	66	66	71	64	67	63	60*	68	75*	69	66	74*	74*	68	70	67	67	59*	62
3. Job Acquisition and Retention Skills		68	58*	60*	60*	71	66	68	59*	66	71	74*	75*	68	72	72*	72	72	67	66	59*	61
4. Attitudes and Appreciation for Career Success		78	69*	75	77	81*	73*	81	75	74	80	83*	81	79	85*	83	81	79	77	77	72*	70*
5. Skills in Human Relationships		89	82*	86	87	91*	85	91	84*	87	90	89	89	87	94*	90	89	91	86	90	87	87
6. Self-Investigation and Evaluation		77	71*	70	75	78	80	75	73	72	80	79	82*	74	82*	87*	80	82*	77	73	72	72
7. Personal/Work/Societal Responsibilities		86	85	84	84	86	83	85	81*	82	87	86	87	86	92*	89	87	87	87	86	91*	84
8. Economic Factors Influencing Career Opportunity		62	54*	57	60	64	59	61	58	58	64	70*	67*	62	72*	71*	66	65	58	57	51*	52*
9. Education/Career Opportunity Relationships		78	70*	73	78	80	78	74	72*	73	81	80	84*	76	81	82	79	80	78	81	81	73*
STUDENT POPULATION TOTAL NUMBER (IN THOUSANDS)		204.5	8.9	7.6	4.2	40.7	7.5	6.1	8.8	3.9	3.3	26.2	17.6	7.3	10.7	3.4	3.2	5.7	6.0	5.1	7.8	17.5
Ethnic Proportions by Percent**	Black	14.4	0	4	11	23	26	19	24	26	6	20	11	18	9	6	3	4	9	6	3	6
	Mexican American	19.4	84	52	24	10	2	4	1	0	6	6	5	8	18	11	29	10	24	22	63	47
	Other***	66.2	16	43	64	67	72	77	75	73	87	74	84	75	72	83	67	87	67	72	34	47

*Indicates that the percentage figure shown is above or below the statewide percentage and the difference in the two is statistically significant.
**Percent figures do not equal 100% due to rounding.
***The other group is composed almost entirely of white students (more than 99%).

RESULTS BY SELECTED SUBPOPULATIONS

Demographic information about the students was gathered from school officials and from the students themselves at the time tests were given. Appendices C and D display the kinds of information collected.

SEX

Females performed better than males on eight of the nine career education categories, and the profiles are similar. Figures 4 and 5 show performance profiles on the nine categories for males and females in both grades eight and eleven.

PERCENT OF EIGHTH GRADE STUDENTS MASTERING CAREER EDUCATION CATEGORIES

Males and Females

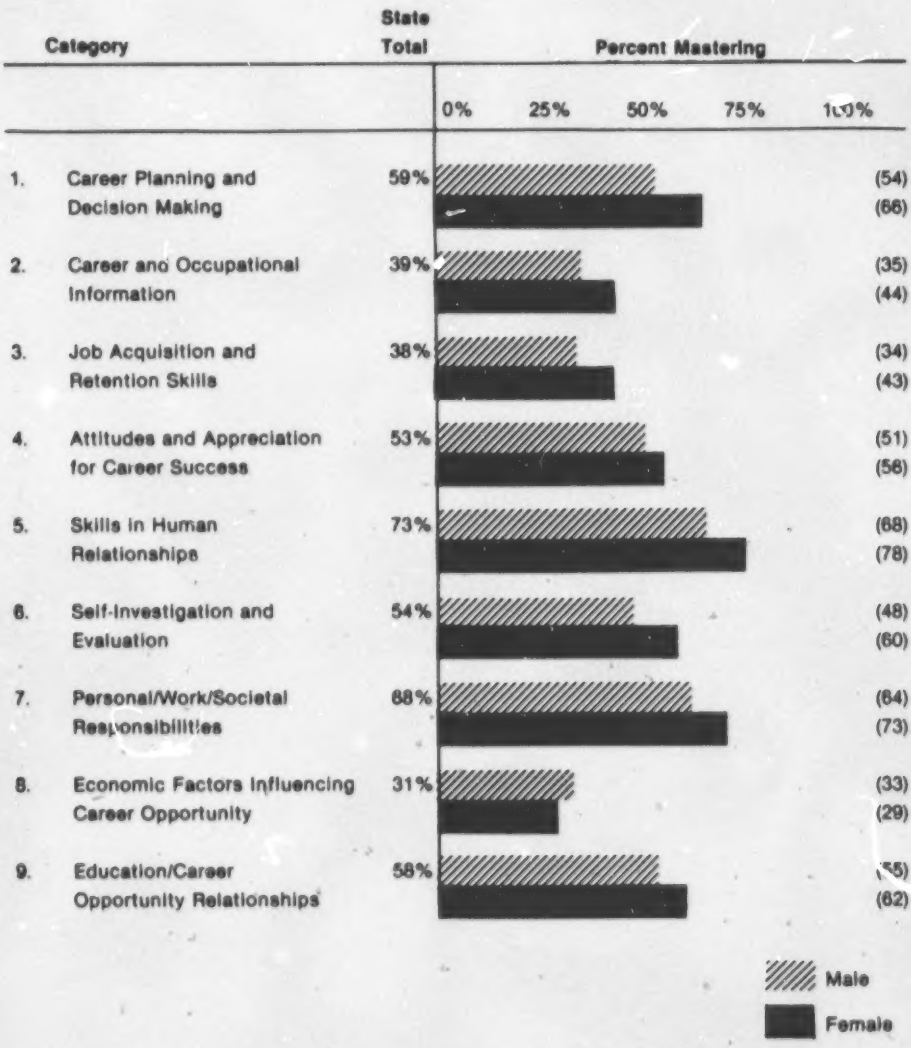


Figure 4

PERCENT OF ELEVENTH GRADE STUDENTS MASTERING CAREER EDUCATION CATEGORIES

Males and Females

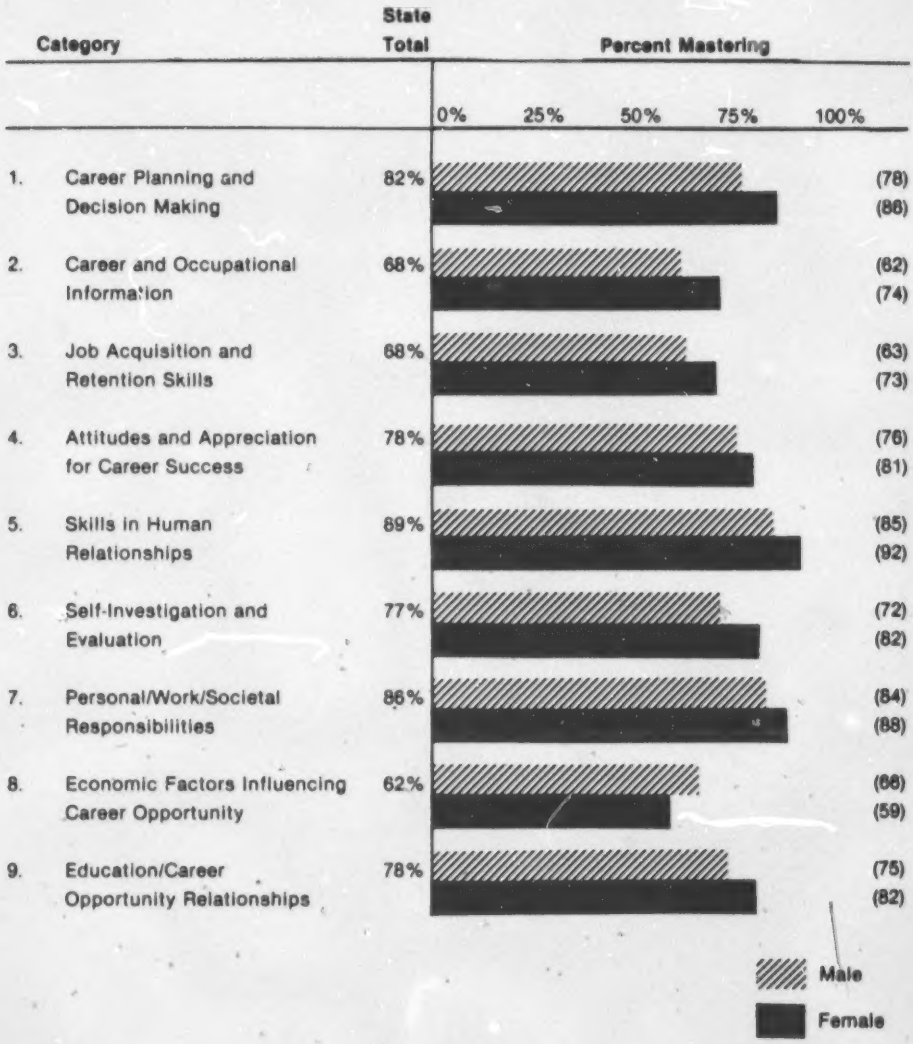


Figure 5

ETHNICITY

Students were identified as members of three ethnic groups: black, Mexican American, and "other." (The "other" category was composed almost entirely of white students.) Ethnic proportions for the state are shown in Figure 6.

PROPORTION OF STUDENTS IN EACH ETHNIC CATEGORY AT THE EIGHTH AND ELVENTH GRADES

Figure 6

Figure 7 shows statewide performance of eighth grade students on the career education measurement instrument for the three ethnic groups. Seventy-five percent or more of the eighth grade students in the "other" group attained mastery (Level I) on two of the nine categories. "Other" students attained Level III performance on three of the nine categories.

Mexican American students in the eighth grade did not attain Level I performance on any of the categories. Mexican American students attained Level III performance on seven categories.

Black students in the eighth grade did not attain Level I performance on any of the nine categories. Black students attained Level III mastery on eight of the categories.

PERCENT OF EIGHTH GRADE STUDENTS MASTERING CAREER EDUCATION CATEGORIES BY ETHNIC GROUP

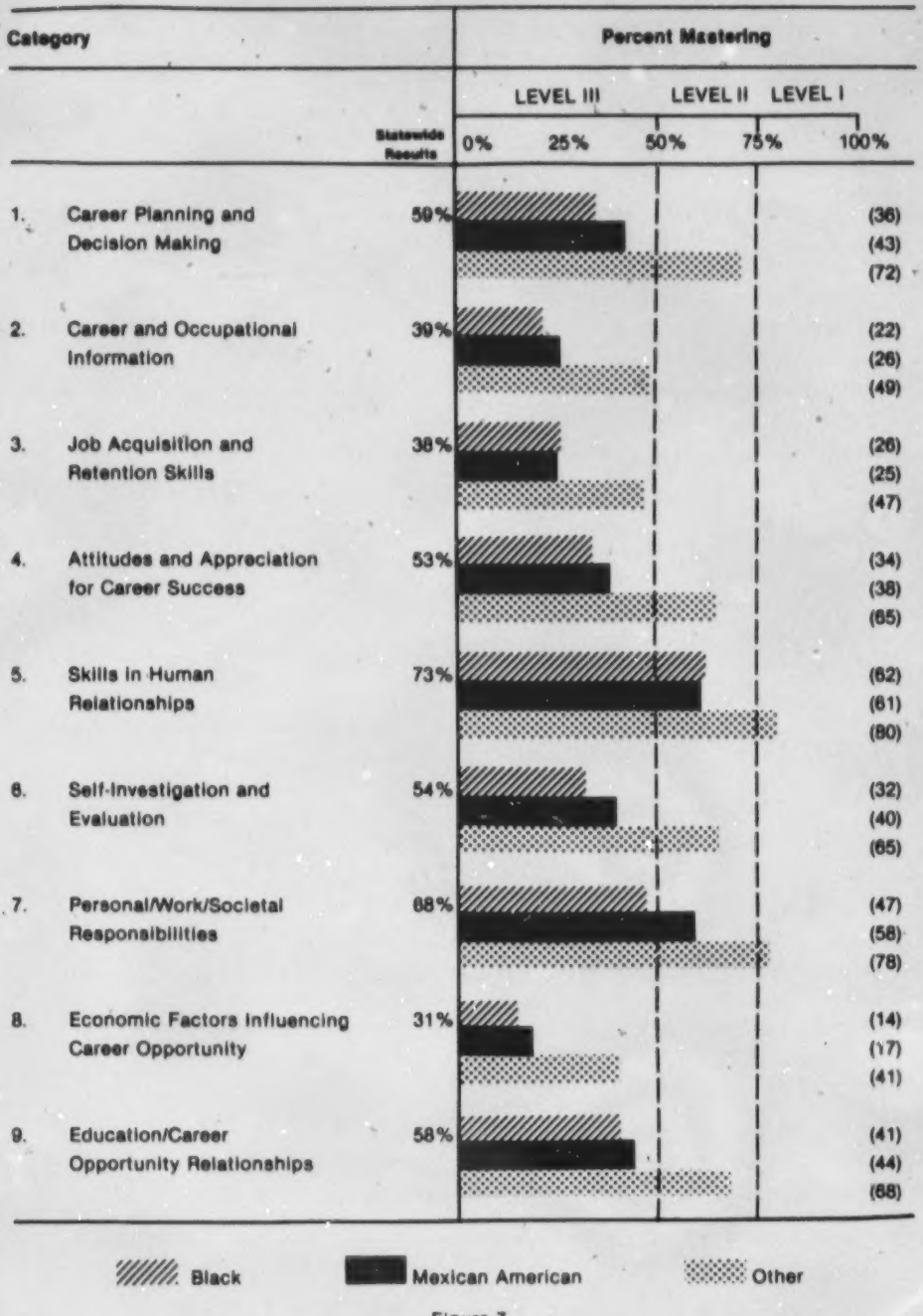


Figure 7

Figure 8 shows the performance of eleventh graders in the three ethnic groups. At the eleventh grade, a pattern of differences was similar to that at the eighth grade. However, the differences between the performance of Mexican American students and "other" eleventh graders were smaller than was the case with eighth graders.

"Other" students in both grades eight and eleven performed at Level I on two of the nine categories. All other percentages of mastery for "other," Mexican American, and black students were at Level II or Level III. For both grades, differences in the mastery percentages among the ethnic groups were wider for those three career education categories on which the performance of all students statewide was lowest. The greatest difference between the performance of "other" students in comparison with that of both black and Mexican American students occurred on category 8, "Economic Factors Influencing Career Opportunity."

PERCENT OF ELEVENTH GRADE STUDENTS MASTERING CAREER EDUCATION CATEGORIES BY ETHNIC GROUP

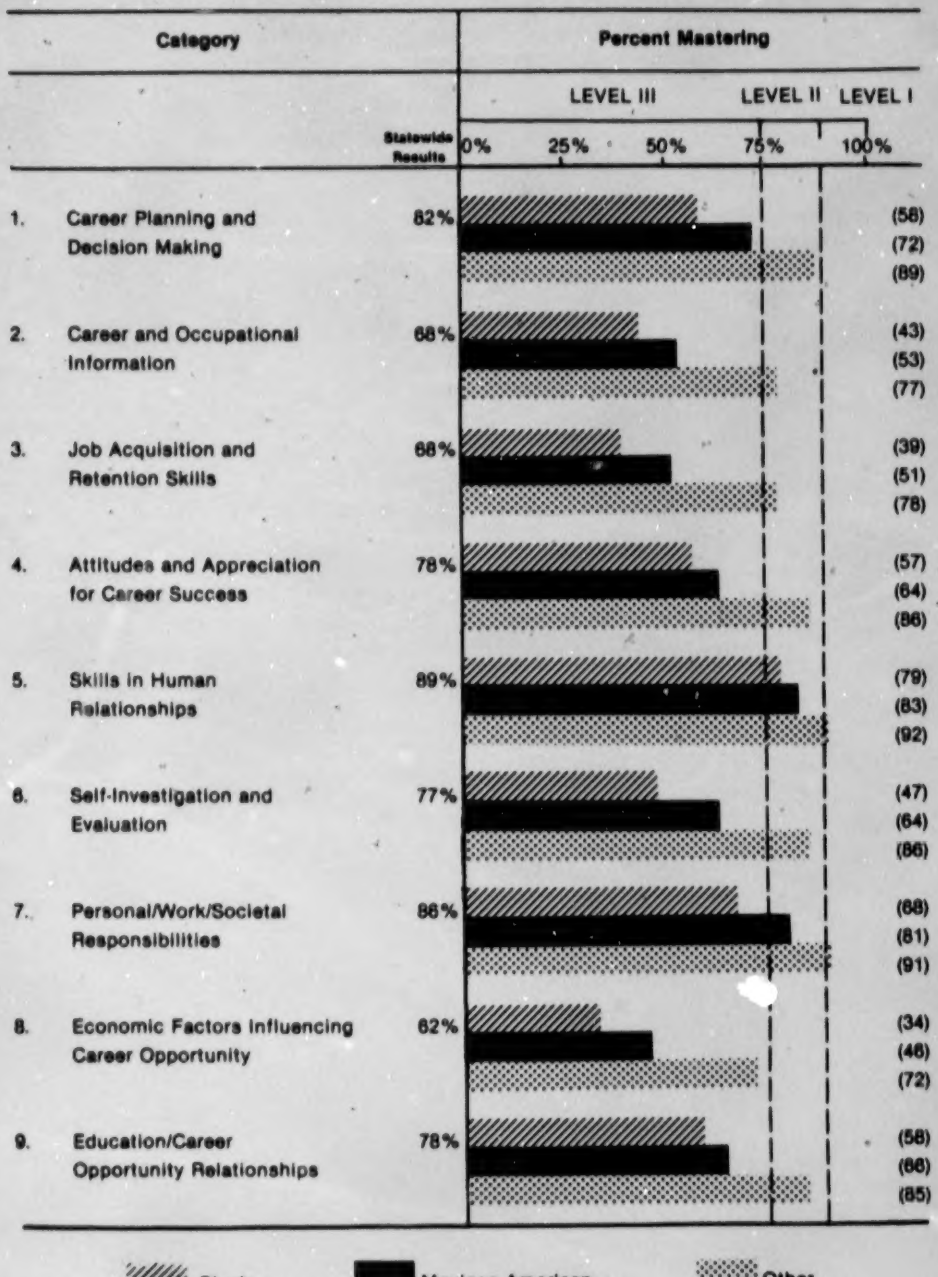


Figure 8

TYPE AND SIZE OF SCHOOL DISTRICT

Student attainment was analyzed for seven types of school districts: (1) Urban, (2) Other Central City, (3) Fast-Growing Suburb, (4) Stable Suburb, (5) Non-Metropolitan, 1,000 Average Daily Attendance (ADA) and Higher, (6) Non-Metropolitan Town, and (7) Rural. Appendix A contains definitions of the seven district types. Appendix B shows the performance of students in these seven types of school districts.

For eleventh grade students in the various types of districts, the pattern of performance was somewhat different from that of eighth graders. Mastery percentages for students in urban districts were lower than those for statewide results, these differences being statistically significant on five of the nine categories.

Among the various types of districts, eighth and eleventh grade students in fast-growing suburban districts were the highest performing group, with mastery percentages significantly above statewide results on almost all of the nine categories.

At eleventh grade, student mastery percentages in districts classified as non-metropolitan with an average daily attendance of 1,000 or more were significantly below statewide results on eight of the nine categories. Students in this group were the lowest performers for grade eleven, while students in urban districts were the lowest performers for grade eight.

FAMILY INCOME

Previous studies conducted by the Agency have shown that a relationship exists between student performance and economic status of the family. To identify family income levels, student eligibility for participation in the National School Lunch Program was selected as a dependable indicator. Eligibility for this program, which provides free or reduced price meals for students in more than 1,000 school districts in Texas, is based on family income and number of children in the family. Information about eligibility for free or reduced price lunch was taken from school records. Based on this criterion, about 30 percent of Texas eighth graders and 17 percent of eleventh graders were identified as members of low income families. Appendix B shows the performance of students according to two levels of family income: low income and not low income.

Among both eighth and eleventh graders, higher percentages of students who were not from low income families demonstrated mastery on all nine categories than did students who were from low income families.

READING MATERIALS IN THE HOME

A factor believed to be associated with student learning is the accessibility of reading materials in the home. Students involved in the assessment were asked whether they had access in their homes to: (1) newspapers, (2) magazines, (3) encyclopedias, and (4) more than 25 books. Student responses were combined to form an index of the overall availability of reading materials in the home. This index categorized students' homes as having none or one, two, three, or all four types of the reading materials listed. Percent mastery

figures were higher for students in both grades on all categories where availability of reading materials in the home was greater. The performance of students grouped according to the availability of reading materials is shown in Appendix B.

HOMEWORK

Students were divided into three groups for the purpose of analyzing the relationship between homework and student performance on the career education test. Student responses to questions regarding homework were used to identify three types of students: (1) students who had no homework assigned or failed to complete assigned homework, (2) students spending less than five hours per week on homework, and (3) students spending more than five hours per week on homework. The performance of students grouped according to amount of homework completed is shown in Appendix B.

Both eighth and eleventh grade students who reported doing no homework performed significantly below statewide results on all of the nine categories. Both eighth and eleventh grade students who reported spending more than five hours per week on homework performed significantly above statewide results on all of the nine categories.

LANGUAGE SPOKEN IN THE HOME

Students were asked to respond to questions about the language spoken in their homes. Responses to these questions were used to identify whether the language spoken in their homes was: "English only," "mostly English," "mostly a language other than English," or "only a language other than English."

In both the eighth and eleventh grades, significantly higher percentages of students reporting only English spoken in the home demonstrated mastery of each of the nine categories than did students reporting a predominant language other than English. Student performance according to dominant home language is shown in Appendix B.

TIME SPENT WATCHING TELEVISION

The test results were analyzed for five categories of students, those who: (1) watched no television, (2) watched one to two hours of television daily, (3) watched two to three hours of television daily, (4) watched three to four hours, and (5) watched more than four hours. The performance of students grouped according to the amount of television watched is shown in Appendix B.

The mastery percentage of eighth grade students who reported watching no television was significantly above statewide results on six of the nine categories. Eighth grade students who reported watching one to two hours of television performed significantly above statewide results on all of the nine categories. There was a progressive decline in mastery percentages for students in the three-to-four-hour and over-four-hour groups on all of the nine categories.

Eleventh grade students who reported watching no television were the highest performers, with mastery percentages significantly above statewide results on all of the nine categories.

Students reporting three-to-four-hours or over-four-hours of television watching performed less well than students in the other groups on all of the nine categories.

GRADES REPORTED BY ELEVENTH GRADERS

Eleventh grade students were asked to describe their grades since enterng high school (See Appendix D, Tailsheet Information). Student responses were used to classify students into five groups. Students who made: (1) mostly A's, (2) mostly A's and B's, (3) mostly B's, (4) mostly B's and C's, and (5) mostly C's and below. Appendix B contains student performance information according to average grades reported by students.

The performance of eleventh grade students on the career education measurement instrument was associated closely with high school grades reported. Students who reported making "mostly A's" were the highest performers and those making "mostly C's and below" were the lowest performers.

Students in three groups (mostly A's, mostly A's and B's, and mostly B's) attained mastery percentages above the statewide results on all of the nine categories. The mastery percentages attained by two groups (mostly B's and C's, and mostly C's and below) were below the statewide results on all categories.

EDUCATIONAL LEVELS OF PARENTS AND EDUCATIONAL EXPECTATIONS OF THE STUDENTS

Students in grade eleven were asked to indicate whether their parents had attended high school, whether their parents had graduated from high school, and whether the students themselves expected to graduate from high school and attend a vocational/technical school, two-year college, four-year college, or graduate school. The percentages of eleventh grade students demonstrating mastery of the nine career education categories increased as parents' education levels increased.

Students indicating that they expected to attend four or more years of college attained mastery percentages significantly above those of students who expressed lesser expectations. Lowest performance was found among those students who indicated no educational expectations after high school.

STUDENT POPULATIONS WITH SPECIAL LEARNING CHARACTERISTICS

School officials were asked to indicate whether eighth grade students participated in the following special programs.:

- Special Education
- Compensatory Education (Title I Regular, Title I Migrant, or State Compensatory Education)

The performance of students participating in compensatory education programs was below that of non-participating students on all nine career education categories. The performance of students participating in special education programs was lower than that of students in all other reporting groups.

COMPARISON OF PERFORMANCE SCORES BY SELECTED SUBPOPULATIONS

In the remainder of this section, student performance is examined for various subpopulation groups where two demographic variables intersect. For example, the performance of male students in urban districts is compared with that of male students in rural districts. To facilitate comparisons of this type, a method for reporting overall student performance on the total test, rather than for each separate category, was necessary. A "performance score" is used to describe student performance on the test for these subpopulations. This score represents student performance across all nine categories collectively. It is an index of student performance on the total test. The score represents the average proportion of the nine career education categories which were mastered by a given group of students. The range of possible values of the score is 0 to 100, with best student performance being a score of 100. See Appendix H for an explanation of the method used to compute the performance score.

To ensure that the sample size for each subpopulation would be large enough for analysis, some of the reporting groups have been combined. For example, student performance has previously been reported separately for fast-growing suburbs and for stable suburbs. These have been combined into one suburban group for analysis of student performance by type of school district.

The reporting variables affected by this are as follows:

FOR GRADES EIGHT AND ELEVEN

DISTRICT TYPE

Group 1: Urban is the same as previously discussed.

Group 2: Suburban was defined by combining fast-growing suburbs with stable suburbs.

Group 3: Rural is the same as previously discussed.

NOTE: The district types: Other Central City, 1,000 ADA + Non-Metropolitan, and Town Non-Metropolitan are not analyzed in this part of the report.

READING MATERIALS IN THE HOME

Group 1: Zero, one, two, and three types of reading materials in the home were combined to define this group.

Group 2: Those students having all four types of reading materials in the home defined this group.

TIME SPENT ON HOMEWORK WEEKLY:

Group 1: The level "Not Done" was combined with less than five hours per week to define this group.

Group 2: More than five hours per week defined this group.

FOR GRADE ELEVEN ONLY

AVERAGE GRADES

Group 1: Mostly A's, mostly A's and B's, and mostly B's were combined to define this group.

Group 2: This group was defined by students responding mostly B's and C's.

Group 3: This group was defined by students responding mostly C's and below.

Examination of the student performance data for subpopulation defined by two demographic variables revealed several important findings:

- Family Income and Reading Materials in the Home—Descriptive data previously reported indicate that students from low income families did not perform as well as students not from low income families. Similarly, student performance was lower where the amount of reading materials in the home was less. Figures 9 and 10 display the performance of students grouped according to both reading materials available and family income. This comparison shows that students who were not from low income families and did not have four types of reading materials in the homes performed better than students who were from low income families and had all four types of reading materials available in their homes.

GRADE EIGHT
PERFORMANCE SCORES
BY FAMILY INCOME AND READING MATERIALS IN THE HOME

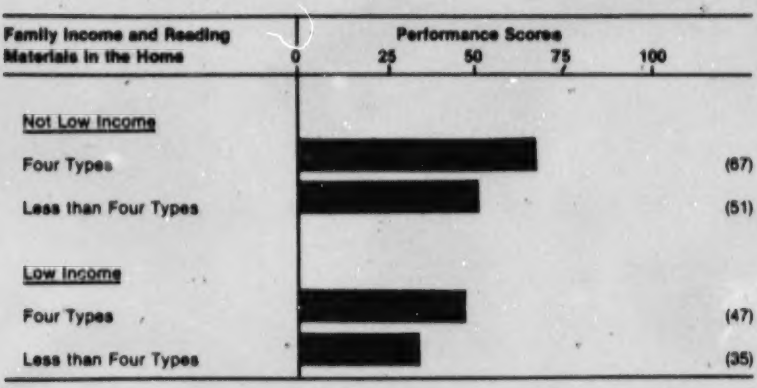


Figure 9

GRADE ELEVEN
PERFORMANCE SCORES
BY FAMILY INCOME AND READING MATERIALS IN THE HOME

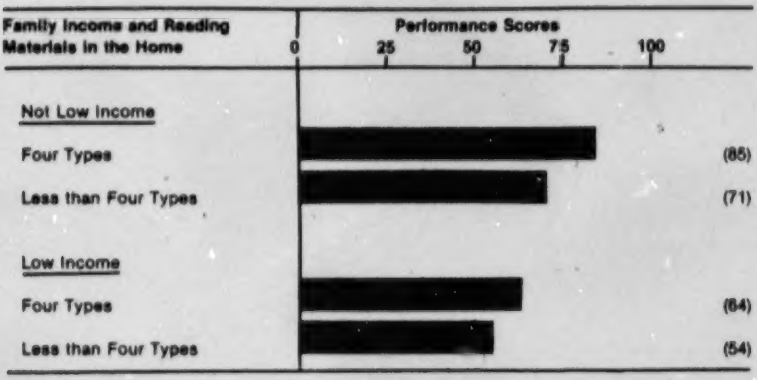


Figure 10

- Family Income and Average Grades—The scores of students not from low income families were significantly higher than those of students from low income families at all of the three average grade levels reported. The scores of the "mostly A's and B's" students from low income families were approximately equal to the scores of the "mostly B's and C's" students not from low income families. The performance of students grouped according to family income and average grades is shown in Figure 11.

GRADE ELEVEN
PERFORMANCE SCORES
BY FAMILY INCOME AND AVERAGE GRADES

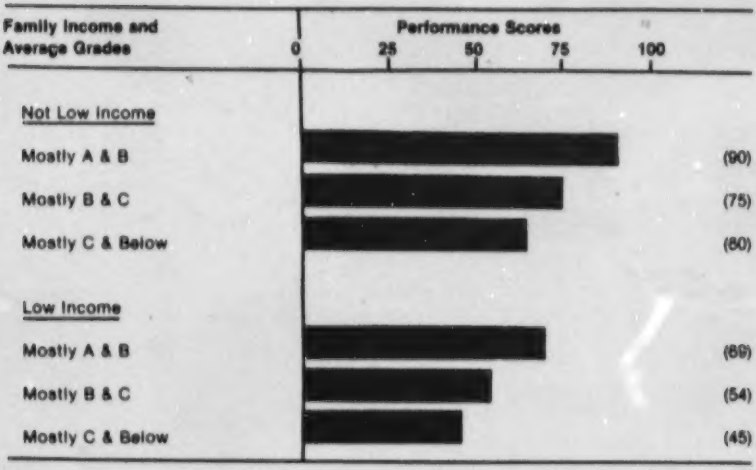


Figure 11

- Ethnicity and Family Income—At both the eighth and eleventh grades, Mexican American students who were not from low income families performed about the same as "other" students who were from low income families. (See Figures 12 and 13.)

  The performance of black students who were not from low income families was significantly below that of "other" students who were from low income families.

GRADE EIGHT
PERFORMANCE SCORES
BY ETHNIC GROUP AND FAMILY INCOME

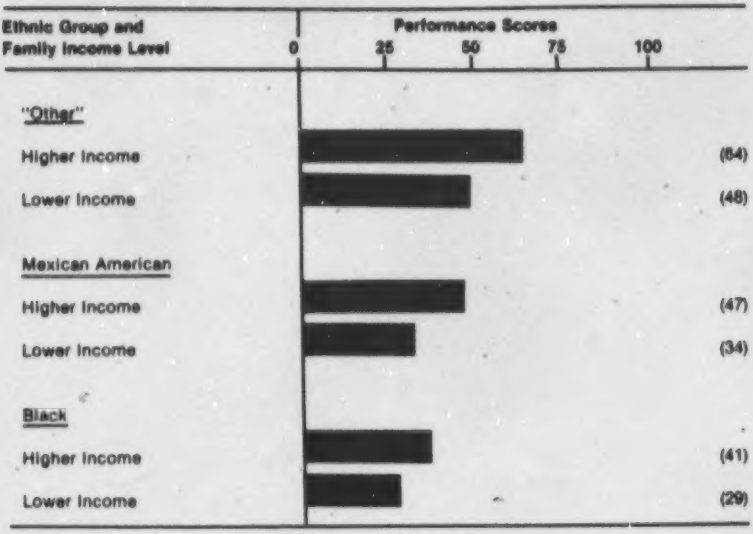


Figure 12

GRADE ELEVEN
PERFORMANCE SCORES
BY ETHNIC GROUP AND FAMILY INCOME

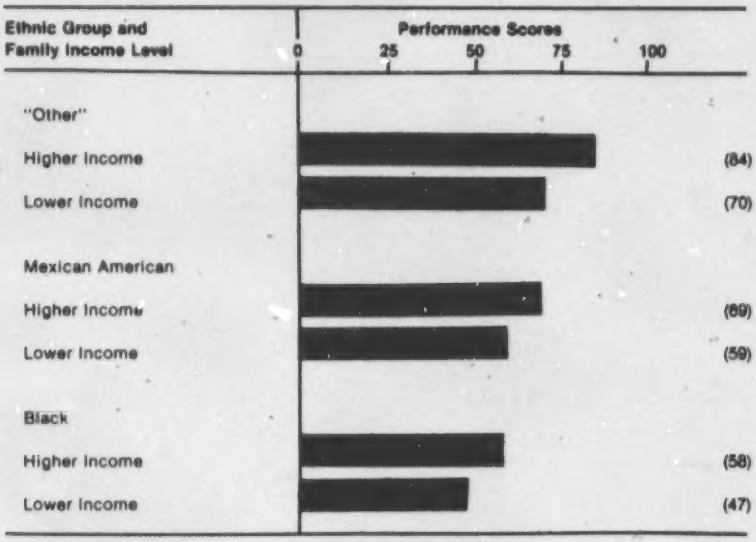


Figure 13

- Ethnicity and Type of School District—The performance of students in suburban districts at both the eighth and eleventh grades was higher than that of students in both urban rural districts. However, when the ethnic composition of urban, suburban, and rural student populations is taken into account, the results are somewhat different. (See Figures 14 and 15).

  In grade eight, the performance of Mexican American students in urban and suburban districts was the same, and the performance of rural Mexican Americans was below that of urban and suburban Mexican Americans. The same pattern was found among "other" students in the three types of districts. Performance of urban, suburban, and rural blacks did not differ significantly.

  In grade eleven, performance of urban and suburban "other" students was about the same, and the performance of rural "other" students was below that of urban and suburban "other" students. Mexican American students in each of the three types of districts performed about the same, as was the case with black students.

GRADE EIGHT
PERFORMANCE SCORES
BY TYPE OF SCHOOL AND ETHNIC GROUP

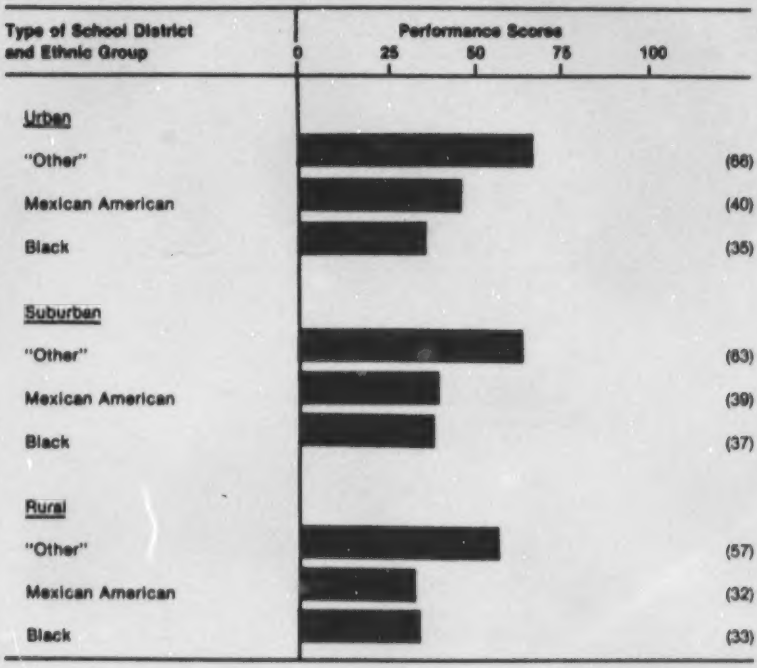


Figure 14

41

GRADE ELEVEN
PERFORMANCE SCORES
BY TYPE OF SCHOOL DISTRICT AND ETHNIC GROUP

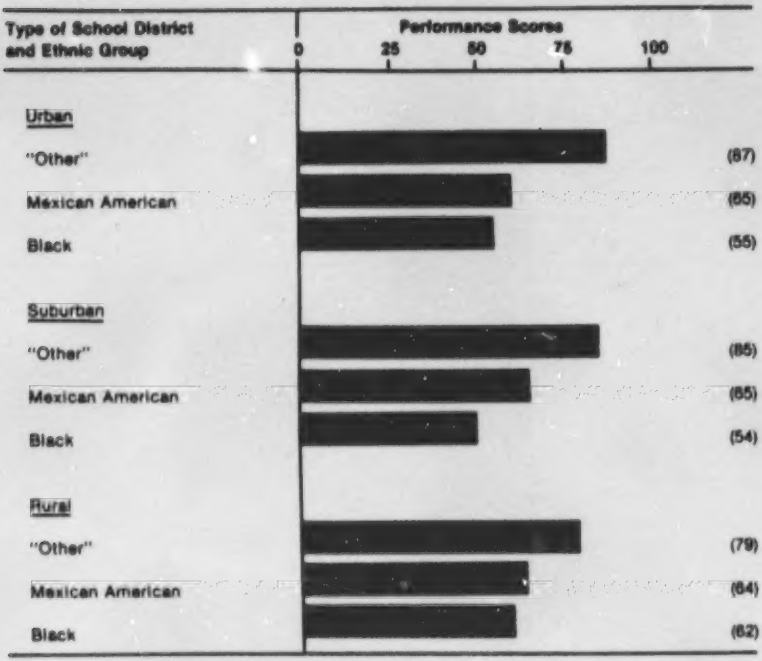


Figure 15

- Ethnicity and Homework—Figures 16 and 17 show a comparison of student performance by ethnic sub-groups, i.e., each ethnic group is divided into two sub-groups according to the amount of homework completed. The performance of "other" students in both eighth and eleventh grades who completed less than five hours of homework was higher than that of Mexican American and black students who performed more than five hours of homework. The scores of Mexican American students who completed less than five hours of homework were approximately the same as those of black students who completed more than five hours.

GRADE EIGHT
PERFORMANCE SCORES
BY ETHNIC GROUP AND HOURS OF HOMEWORK COMPLETED

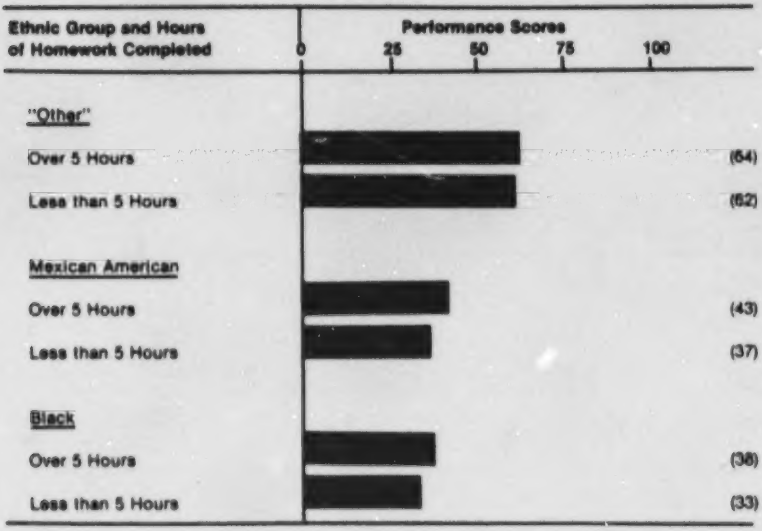


Figure 16

GRADE ELEVEN
PERFORMANCE SCORES
BY ETHNIC GROUP AND HOURS OF HOMEWORK COMPELTED

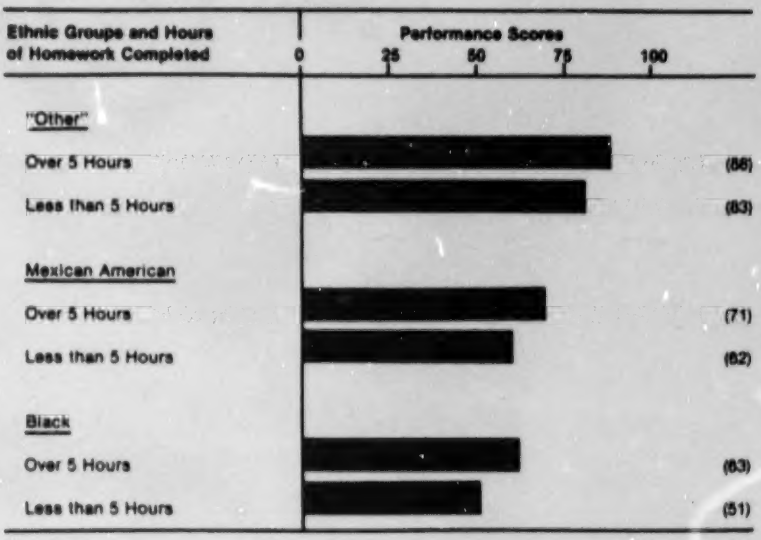


Figure 17

- Ethnicity and Reading Materials in the Home—Mexican American students who reported that all four types of reading materials were available in their homes performed about the same as "other" students who reported fewer reading materials. The performance of black students who reported all four types of reading materials available in their homes was significantly below that of "other" students who reported less than four types of reading materials available.

  Figures 18 and 19 show student performance scores for the ethnic groups according to the availability of reading materials in the home.

GRADE EIGHT
PERFORMANCE SCORES
BY ETHNIC GROUP AND AMOUNT OF READING MATERIALS IN THE HOME

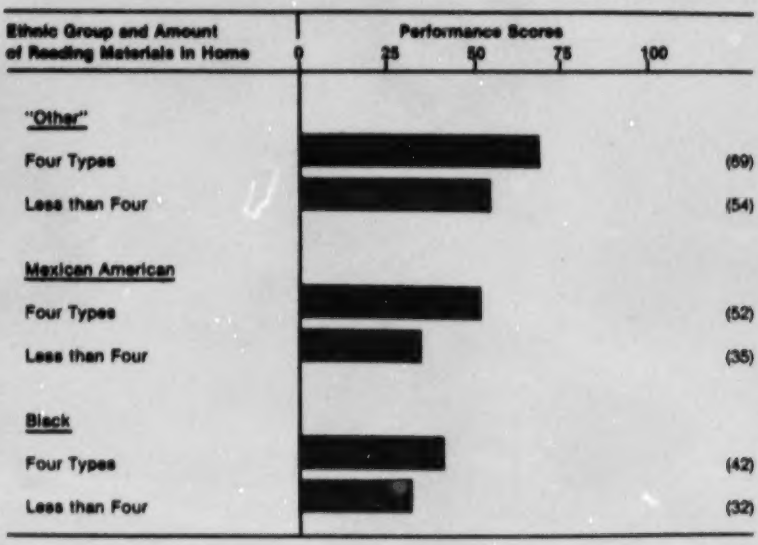


Figure 18

GRADE ELEVEN
PERFORMANCE SCORES
BY ETHNIC GROUP AND AMOUNT OF READING MATERIALS IN THE HOME

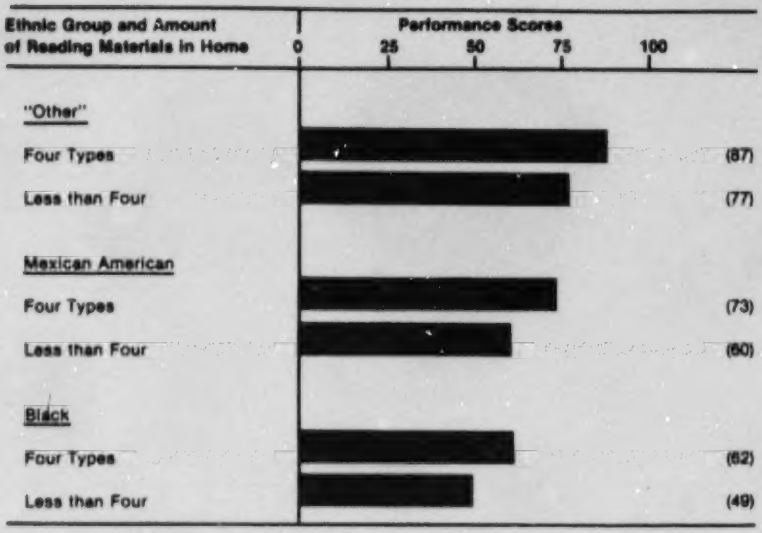


Figure 19

- Sex and Homework—Both the sex of students and the amount of homework completed have been shown independently to be related to student performance. Females surpassed males in overall performance, and students completed more than five hours homework performed better than students who completed less than five hours homework. When the two demographic factors are taken together, even more striking differences are found. The performance of students grouped according to both sex and the amount of homework done is shown in Figures 20 and 21.

  In grade eight, females reporting that less than five hours homework was completed performed better than males who reported more than five hours homework completed. For grade eleven, males completing more than five hours homework performed about the same as females performing less than five hours.

GRADE EIGHT
PERFORMANCE SCORES
BY SEX AND AMOUNT OF HOMEWORK COMPLETED

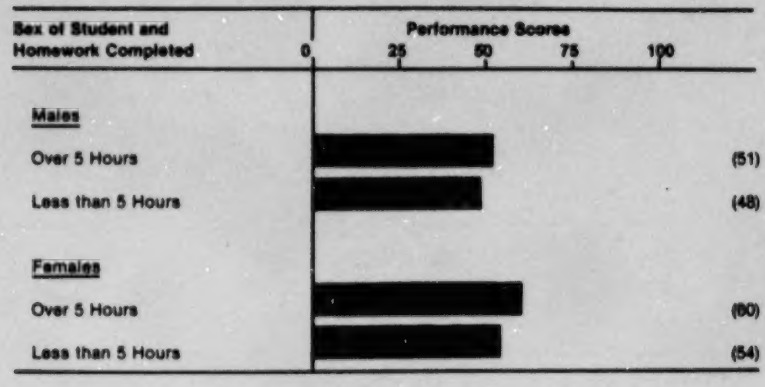


Figure 20

GRADE ELEVEN
PERFORMANCE SCORES
BY SEX AND AMOUNT OF HOMEWORK COMPLETED

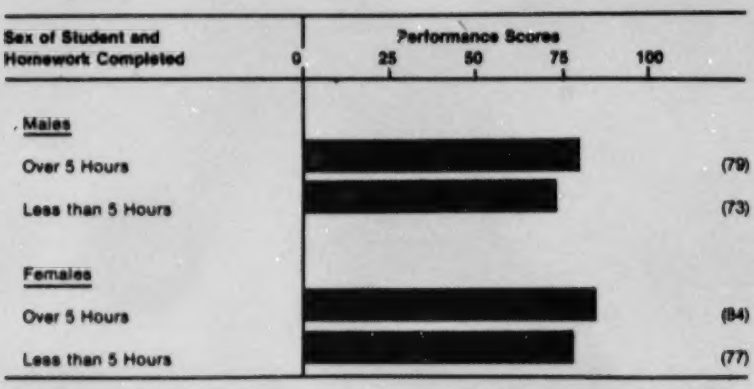


Figure 21

- Sex and Ethnicity—The scores of females were higher than those of males within each of the ethnic groups. For both grades, "other" females were the highest scoring group, and black males were the lowest scoring group.

  For grade eight, there was no significant difference between the scores of Mexican American males and black females. For grade eleven, performance scores of the six sub-groups followed a linear pattern. This pattern shows sub-group scores from lowest to highest in the following sequence: black males, black females, Mexican American males, Mexican American females, "other" males, and "other" females. Figures 22 and 23 display the performance of males and females in the three ethnic groups.

GRADE EIGHT
PERFORMANCE SCORES
BY ETHNIC GROUP FOR MALES AND FEMALES

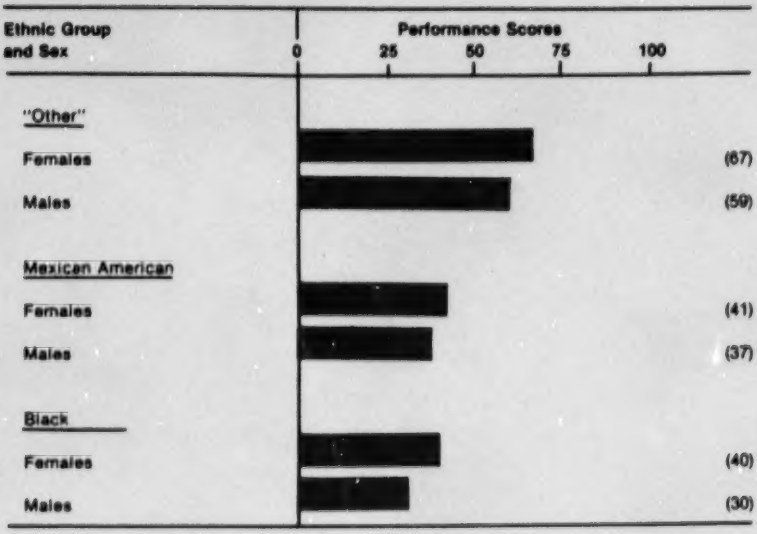


Figure 22

GRADE ELEVEN
PERFORMANCE SCORES
BY ETHNIC GROUP FOR MALES AND FEMALES

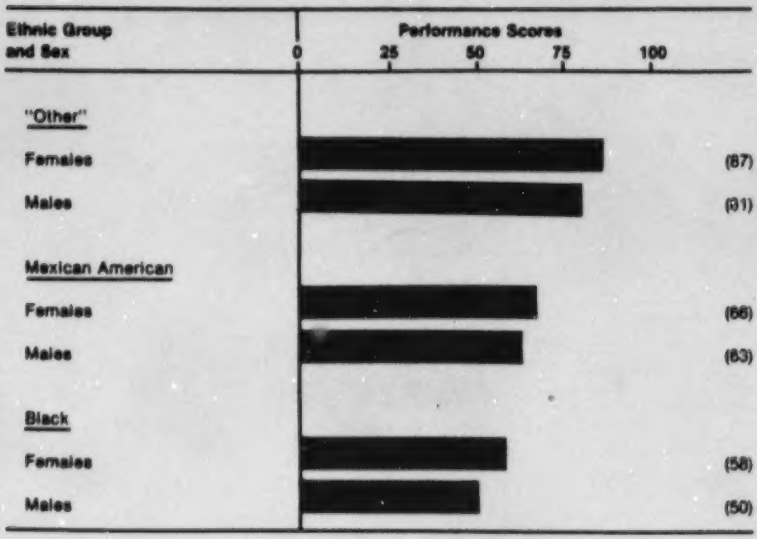


Figure 23

- Ethnicity and Average Grades—The scores of "other" students who reported making "mostly C's and below" were the same as those of black students who reported making "mostly A's and B's." The scores of Mexican American students who reported making "mostly A's and B's" were approximately the same as those of "other" students who reported making "mostly B's and C's." Across all three of the average grade levels analyzed, the scores of the ethnic groups followed essentially the same pattern. (See Figure 24.)

GRADE ELEVEN
PERFORMANCE SCORES
BY ETHNIC GROUP AND AVERAGE GRADES

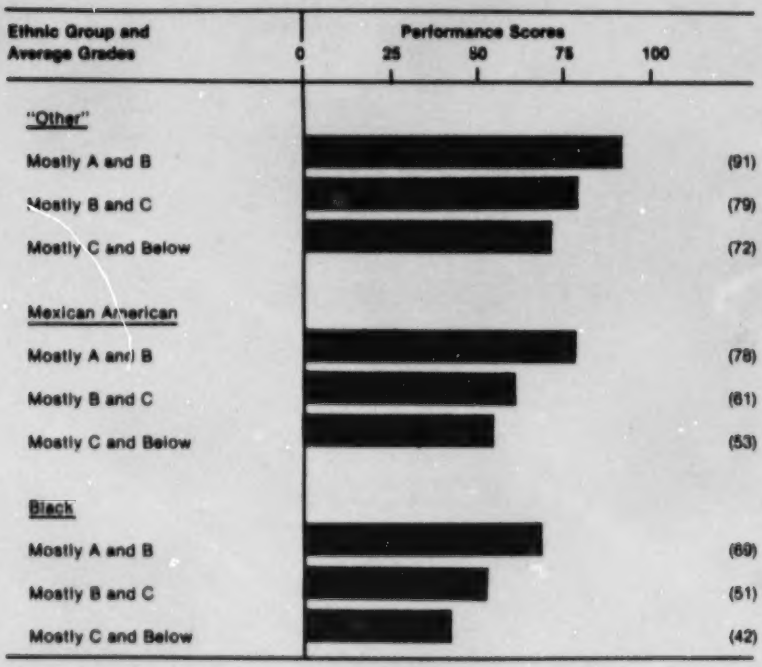


Figure 24

SUMMARY OF FINDINGS ON STUDENT PERFORMANCE

From the presentation and analyses of data, several major findings emerge with respect to student achievement of the concepts and competencies in career education:

1. The total student population tested in both grades eight and eleven performed relatively well on two categories of career education competencies: (1) skills in human relationships and (2) personal/work/societal responsibilities.

2. The total student population tested in both grades eight and eleven performed poorly on three career education categories: (1) career and occupational information, (2) job acquisition and retention skills, (3) economic factors influencing career opportunity.

3. More than one-third of eleventh grade students demonstrated mastery of all nine career education competencies, and more than two-thirds of eleventh graders demonstrated mastery of at least seven of the nine categories. These mastery rates were substantially higher than those for eighth graders, among whom fewer than one-tenth mastered all nine categories and about one-third mastered at least seven of the career education categories.

4. When the results were analyzed by geographic region, a number of significant variations emerged—

    - In three regions, the performance of eighth grade students was well above the state totals, yet the performance of eleventh grade students was approximately the same as the state total.

    - In one region, student performance was significantly below the statewide results among both eighth and eleventh graders.

    - In two regions, performance of eighth grade students was equal to the statewide results, while performance of eleventh grade students was significantly above the statewide results.

    - In two regions, the performance of eighth graders was equal to the state average, while the performance of eleventh graders was below the statewide results.

5. In both grades eight and eleven, female students performed better than male students on eight of the nine career education categories.

6. In both grades eight and eleven, the performance of Mexican American students was lower than that of "other" students on each of the nine career education categories. Similarly, the performance of black students was below the performance of Mexican American students on most of the nine career education categories.

7. As was expected, higher performance on the test was found among both eighth and eleventh graders who came from homes where reading materials were available, who reported spending more than five hours per week completing homework, who came from homes where only English was spoken, and who reported watching not more than two hours of television daily.

8. Students from low income families performed less well at both grade levels than did students not from low income families.

9. A significant and direct relationship was found between the average grades students reported they made and their performance on the career education test.

10. Higher educational levels of parents and higher educational expectations of students were directly associated with higher levels of performance on the nine career education categories.

11. As expected, students who were identified by school officials as participating in compensatory education performed significantly less well than students not participating in this program. Students who were identified by school officials as participants in special education demonstrated the lowest level of mastery of all subpopulations studied.

12. In both eighth and eleventh grades, students from fast-growing suburban districts demonstrated the highest performance on this test. Eleventh graders from nonmetropolitan districts with an average daily attendance of 1,000 or more, and eighth graders from urban districts, demonstrated the lowest levels of mastery of the nine categories.

13. When two demographic variables were considered jointly in identifying student subpopulations, a number of significant findings occurred—

    - For both grades eight and eleven, black males were the lowest scoring group, and "other" females obtained the highest performance scores.

    - For both grade levels, students who were not from low income families and had fewer reading materials in the home performed better than students who were from low income families and had higher availability of reading materials in the home.

    - Mexican American students not from low income families performed about the same as "other" students from low income families. Black students not from low income families performed significantly less well than both of the above two subpopulations.

    - When the student populations of the various types of school districts were further divided into three ethnic subpopulations, it was found that black eighth graders in all three types of districts performed about the same. Mexican American and "other" eighth graders in rural districts performed less well than their respective ethnic counterparts in urban and suburban districts. In

grade eleven, "other" students in rural districts performed less well than their counterparts in urban and suburban districts. Mexican American and black eleventh graders in all three types of districts performed about the same as their ethnic counterparts.

- "Other" students who reported making mostly B's and C's performed much like Mexican American students who reported making A's and B's. "Other" students who reported making mostly C's and below performed about like black students who reported making mostly A's and B's.

SECTION III

PROGRAM INFORMATION

Information concerning high school career education programs was collected from two sources: eleventh grade students taking the career education test and principals of all high schools participating in the 1979 assessment.

- *Principal's Questionnaire*—The principal's questionnaire was designed to obtain information about the career education implementation efforts at campus and district levels. The questionnaire is in two parts: (1) The first part contains questions that are directed specifically toward obtaining information about activities and procedures that have long been advocated by the Agency for successful implementation of career education in school. These activities are stressed in the *Texas Statewide Plan for Implementing Career Education*. (2) The second part of the questionnaire is concerned with inservice training for teachers and other school staff members. This is also an important aspect of career education implementation. The infusion approach described in the State Plan requires that all school staff members receive inservice training. Appendix E contains a copy of the principal's questionnaire.

- *Special Questions for Students*—There are three sets of student questions: (1) The first set asks students about their work experience and career information that they have been able to obtain in school. (2) The second set asks students to indicate whether they are able to recognize a relationship between the content of various courses and the questions contained in the career education assessment instrument. (3) The third set of questions asks students to rate various career development aspects of their school experience and course work on a three-point scale.

  Appendix F contains the questions to which eleventh grade students responded.

DESCRIPTIVE PROGRAM INFORMATION—PRINCIPALS' RESPONSES

The statewide percentages of high school principals responding affirmatively to each of the questionnaire items are shown in Figure 25.

PERCENTAGES OF HIGH SCHOOL PRINCIPALS RESPONDING AFFIRMATIVELY TO QUESTIONS RELATED TO CAREER EDUCATION IMPLEMENTATION

	Implementation Questions	Percent Responding Affirmatively
1.	Does your school board have a written policy for implementing career education?	87
2.	Is there a written plan (which includes resources) for continued implementation of career education in your school?	55
3.	Is the principal designated as coordinator of career education in your high school	42
4.	Has someone other than the principal been designated as coordinator of career education in your high school?	51
5.	Is there a career education advisory body which includes representatives from the community, and which has met one or more times this year to help career education activities?	27
6.	Have basic learner outcomes for career education been established and communicated to teachers?	49
7.	Has your school or district conducted an assessment of student achievement in career education?	37
8.	Do teachers have materials for teaching career education concepts and competencies?	79
9.	Does your school offer a specific course in career education?	21*
10.	Have you used community representatives directly in your career education activities in the last two years?	80

Figure 25

*A negative response is compatible with desired practice, since "infusion" is the approach advocated.

Principals' responses to items 3 and 4, Figure 25, indicate that a career education coordinator has been designated in more than 90 percent of the state's high schools. In 42 percent of the high schools, the principal is the coordinator; while in 51 percent, another person has been designated.

Principal's responses to item 8, Figure 25, indicate that teachers are perceived by 79 percent of the principals as having the materials necessary for teaching career education. Yet, only 37 percent of the principals reported that their schools have assessed student achievement in career education, and 49 percent have established basic learner outcomes for career education and communicated them to teachers.

Figure 26 shows that the majority of principals indicated that inservice training for career education had been provided to teachers in three general subject areas. These were: business education, social studies, and vocational education (including industrial arts). Less than 50 percent of the principals indicated that inservice training for career education had been provided to all other teachers and school staff members. Thirty-nine percent of the principals indicated that mathematics teachers had been provided with inservice training in career education, and 43 percent replied that their English teachers had been reached through inservice.

PERCENTAGES OF HIGH SCHOOL PRINCIPALS INDICATING THAT CAREER EDUCATION INSERVICE TRAINING HAS BEEN PROVIDED TO SCHOOL STAFF

	Staff Position	Percent Responding Affirmatively
1.	English Teachers	43
2.	Foreign Language Teachers	22
3.	Business Education Teachers	59
4.	Social Studies Teachers	56
5.	Fine Arts Teachers	23
6.	Mathematics Teachers	39
7.	Science Teachers	40
8.	Vocational Education Teachers (including Industrial Arts)	73
9.	Health Teachers	42
10.	Physical Education Teachers	35
11.	Counselors	66
12.	Administrative Staff	59
13.	Instructional Aides	22

Figure 26

Principals' responses were analyzed by district type. On the first ten items, which describe activities and procedures advocated for successful career education implementation, a higher percentage of principals from urban districts reported that the items were in place than did principals from other types of districts. In fact, the urban percentages exceeded state percentages on all items by a range of 5 to 31 percentage points. (See Appendix G).

A higher proportion of principals in stable suburbs reported that these indicators of administrative emphasis were present than did princpals in fast-growing suburban districts. Percentages of principals from fast-growing suburbs were higher than the state average on two items: the offering of a career education course, and the use of community representatives. Percentages of principals in rural districts reporting that these administrative indicators were present were lower than state averages for seven of the ten indicators.

Principals in urban schools also reported, more frequently than principals in other types of schools, that inservice education was provided to a variety of teachers. The percentages of principals in urban districts exceeded statewide percentages for all types of school personnel provided inservice education.

DESCRIPTIVE PROGRAM INFORMATION— STUDENT RESPONSES

Figure 27 shows the percentage of eleventh graders responding affirmatively to a series of eight questions about their high school experiences related to career education. Appendix G displays the percentages by district type, sex, ethnicity, and family income.

PERCENTAGES OF ELEVENTH GRADE STUDENTS RESPONDING AFFIRMATIVELY TO QUESTIONNAIRE ITEMS RELATED TO STUDENT INITIATIVE

Since entering high school, have you:	Percent Responding Affirmatively
1. Worked *part-time* (less than 35 hours per week) in a job for pay for four weeks or more?	63
2. Worked *full-time* (35 hours or more per week) in a job for pay for four weeks or more?	24
3. Worked in a job which the school helped you to find?	10
4. Talked with one or more of your high school teachers about your career planning?	49
5. Talked with one or more other school staff members about your career planning (such as principal, counselor, cafeteria worker, secretary, coach, nurse, or librarian?	45
6. Obtained information about career opportunities from the school library or the guidance office?	41
7. Obtained information about career opportunities on your own from sources outside your high school?	70

Figure 27

A much higher percentage of students attending schools in the non-metropolitan town and rural districts reported that they were working at either part-time or full-time jobs than did their counterparts statewide. This same trend holds for males, for "other" students, and for students not from low income families.

Ten percent of the students indicated that they had worked in a job that the school helped them find. The percentage of blacks (17 percent) who worked at a job that the school helped them find was twice as large as that of "other" students (8 percent), with the percentages of Mexican Americans (13 percent) between those for black and "other" students.

A higher percentage of students from low income families reported that their schooling helped them find a job compared to students not from low income families. (See Appendix G.)

Almost twice as many of the eleventh graders reported that they were obtaining information about career opportunities from their own sources outside school (70 percent) than from sources inside the school (41 percent).

Forty-nine percent of the students indicated that they had talked to one or more of their high school teachers about planning while 45 percent reported that they had talked with one or more school staff members, including counselors, about the same subject.

Higher percentages of black and Mexican American students reported talking to their high school teachers about career planning (54 percent) than did "other" students (48 percent).

A higher percentage of females than males reported that the schools are providing them more information about career opportunities (44 percent versus 39 percent). Teachers and other school staff members were reported to be providing information about career plans to larger percentages of females than males.

A higher percentage of black students (54 percent) reported that teachers provided them with information about their career plans than did "other" students (48 percent). "Other" students (46 percent) reported that other school staff people (non-teachers) provided them with information about career planning. Forty-one percent of Mexican American students reported that they obtained information at school from non-teachers.

Compared to students from larger districts, lower percentages of students attending non-metropolitan and rural school districts reported obtaining information about career opportunities on their own from sources outside the school.

Forty-five percent of the students not from low income families indicated that they obtained information about career opportunities on their own from sources outside of school as compared with 40 eprcent of the students from low income families who indicated that they obtained this type of information on their own from outside sources.

Figure 28 shows the percentages of students who identified subject areas which covered material in the career education assessment instrument. English and vocational education were each identified by 57 percent of the eleventh graders as providing test-related information. Social studies, science, and mathematics were each identified by fewer than 40 percent of the students as providing test-related information.
Social studies, science, and mathematics were each identified by fewer than 40 percent of the students as providing test-related information.

PERCENTAGES OF ELEVENTH GRADE STUDENTS RESPONDING AFFIRMATIVELY TO QUESTIONNAIRE ITEMS ABOUT THE CAREER EDUCATION TEST AND COURSE WORK RELATIONSHIPS

	Was the material on this test covered in one or more of your courses in the following subject areas?	Percent Responding Affirmatively
1.	English	57
2.	Foreign Language	11
3.	Social Studies	39
4.	Mathematics	25
5.	Science	32
6.	Health	43
7.	Physical Education	27
8.	Vocational Education (such as: Homemaking, D.E., Industrial Arts)	57
9.	Business Education	53
10.	Fine Arts	16

Figure 28

Figure 29 shows eleventh grade students' ratings of their high school experience and course work. Students responded to a series of eight items which deal with career education concepts. They rated their schools highest for improving their sense of responsibility (60 percent). Also rated high was improving their ability to work well with others (58 percent) and knowing their own abilities (57 percent).

PERCENTAGES OF ELEVENTH GRADE STUDENTS RATING THEIR HIGH SCHOOL EXPERIENCE AND COURSE WORK AS HELPFUL

	Do you feel that your high school experience and course work have helped you develop in each of the following ways?	Percent Responding Affirmatively
1.	Knowing about jobs and work after graduation	38
2.	Developing skills useful for many kinds of jobs	37
3.	Improving your sense of responsibility	60
4.	Knowing your own abilities	57
5.	Deciding on and planning a career	36
6.	Deciding on further education	45
7.	Learning how to get a job	32
8.	Improving your ability to work well with others	58

Figure 29

Students attending rural school districts viewed their high school experience and course work as less helpful in developing self-awareness and skills for entering the world of work than did students in the other types of districts. The percentages of students from rural districts were lower than state percentages on four of eight items rating their schools: developing job skills, knowing their own abilities, planning a career, and deciding on further education. A greater percentage of these students rated their schooling as successful in helping them to know about jobs and work, in developing a sense of responsibility, in working with others, and in learning how to get a job.

More females than males reported that their schooling helped them to prepare for the world of work. On six of eight responses, percentages of females exceeded percentages of males by a range of 3 to 13 points.

An analysis of student responses by ethnic groups shows that percentages of black and Mexican American students who felt positive about their schooling were significantly higher than those of "other" students in almost every response. The pattern which emerges is that:

- More black students perceived their high school years as helpful than did Mexican American students, and
- "Other" students felt their school experiences were less helpful than either of the two ethnic minority groups.

Students from low income families perceived their schooling in more positive ways than those not from low income families. Six reponses were significantly more positive from students from low income families than students not from low income families.

SUMMARY OF INFORMATION FROM PRINCIPALS AND STUDENTS

Principals in high schools where assessment testing was conducted responded to questions about their career education programs:

- More than 90 percent reported that either the principal or another staff person had been designated as coordinator of career education.

- More than three-fourths indicated that their teachers had the materials and the competencies necessary for teaching career education.

- Less than half of the principals, however, reported that student achievement had been assessed, or that basic learner objectives or outcomes had been established or communicated to teachers.

- There was some indication that career education was approached through several instructional areas and through guidance services. This approach, called infusion, has been advocated through statewide efforts for several years. Principals reported that a variety of subject area teachers and other staff members had received inservice education. Infusion seemed further confirmed by the report that only about a fifth of the high schools were offering a specific course in career education, though a course *plus* infusion into a variety of other courses might also be present.

- Community involvement in career education activities was confirmed by 80 percent of the principals, though the frequency or the quality of the involvement was not covered in the questionnaire.

Further interpretation of the career education program will be reported later when student performance results are analyzed in relation to the principals' responses to the program questions.

Students who took the test in the eleventh grade were asked about their school experiences in career education through questions which are still being analyzed in relationship to student performance. However, answers to these questions reveal some program information:

- Eighty-seven percent of the students who took the test reported that they worked part-time or full-time in jobs for pay for four weeks or more since they entered high school.

- When asked whom they talked to and where they went for career guidance, students showed strongest reliance upon resources outside of the school. A little less than a majority of students used in-school resources—teachers, other staff members, and the school library or guidance office. A higher percentage of black and Mexican American students reported use of in-school resources than did "other" students.

- When asked whether their high school experience and course work had helped in developing their career plans and their skills for work, students revealed mixed feelings. A majority indicated that their schools had helped them to develop a sense of responsibility, to know their own abilities, and to improve their abilities to work well with others. Less than a majority, however, indicated that their schools had provided experiences and course work to help them know about jobs and work after graduation, develop a variety of work skills, plan for a career, and learn how to get a job. More blacks and Mexican Americans indicated that their schools had helped them prepare for the world of work than did "other" students.

CONCLUSION

A number of significant differences were found in the performance of various subpopulations of students on the career education test. These findings should be used as the basis for identifying aspects of the career education program that should be strengthened to improve student achievement in areas of identified needs. The findings presented in this report should serve as a useful reference point for interpreting performance scores of students in a given school district or campus on this test.

A follow-up report is being developed to deal with some of the relationships between student performance results and characteristics of career education programs as described by principals and students in local school districts. This report should provide clues to cause-effect relationships between career education programs and student achievement which will be useful in determining how programs can be changed to improve their effectiveness.

APPENDICES
A—I

APPENDIX A

DEFINITIONS OF REPORTING GROUPS

GROUP LABEL	CATEGORY TITLE—NUMBER OF GROUPS Group Definition—SOURCE of Data
	ESC REGIONS—20
REGION I	Geographic regions served by education service centers.
REGION XX	SOURCE: Texas Education Agency (TEA) Management Information Center (MIC) data files.
	DISTRICT TYPE—7
URBAN	The central cities of the state's seven largest Standard Metropolitan Statistical Areas as defined by the U.S Bureau of Census.
OTHER CENTRAL CITY	The central cities in the state's remaining Standard Metropolitan Statistical Areas as defined by the U.S. Bureau of Census.
SUBURBAN	Fast-Growing—An outlying district adjacent to a Central City that shows a high ADA growth rate over three years.
	Stable—An outlying district adjacent to a Central City that has not shown a high ADA growth rate.
NON-METROPOLITAN 1000 + ADA	Includes all school districts with 1,000 ADA or above which are not found in the first 4 categories.
NON-METROPOLITAN TOWN	Includes school districts which have less than 1,000 ADA and which encompass a town of approximately 1,000 persons or more.
RURAL	A district of less than 1,000 ADA having no central town.
	SOURCE: TEA MIC data files.

GROUP LABEL	CATEGORY TITLE—NUMBER OF GROUPS Group Definition—SOURCE of Data
	ETHNICITY—3
BLACK MEXICAN AMERICAN OTHER	Ethnic designation filled in by school personnel for each pupil. SOURCE: Pupil information form (PI).
	SEX—2
MALE FEMALE	Sex designation filled in by the school personnel for each pupil. SOURCE: PI
	SPECIAL EDUCATION PARTICIPATION—2
SPECIAL EDUCATION—YES SPECIAL EDUCATION—NO	YES if the school district indicated that the pupil participates in a special education program. Otherwise NO. SOURCE: PI
	STATE COMPENSATORY PARTICIPATION—2
STATE COMP. ED—YES STATE COMP. ED—NO	YES if the school district indicated that the pupil participates in a State Compensatory Education program for educationally disadvantaged children. Otherwise NO. SOURCE: PI
	READING MATERIALS IN THE HOME—4
READ MATERIALS-0-1	Pupil responded YES to zero or one of the above four questions.
READ MATERIALS-2	Pupil responded YES to any two of the above four questions.

GROUP LABEL	CATEGORY TITLE—NUMBER OF GROUPS Group Definition—SOURCE of Data
READ MATERIALS-3	Pupil responded YES to any three of the above four questions.
READ MATERIALS-4	Pupil responded YES to all four of the above four questions.
	SOURCE: TS
	TV WATCHING TIME—5
TV NONE TV-1-2 HOURS TV-2-3 HOURS TV-3-4 HOURS TV-OVER 4 HOURS	Amount of time the pupil indicated watching TV the previous night. SOURCE: TS
	HOMEWORK TIME PER WEEK—4
	The pupil indicated the following:
HOMEWORK NOT ACCOMPLISHED	No homework is assigned or assigned but not accomplished.
HMWK-LESS 5 HOURS/WK	The pupil does less than 5 hours homework per week.
HMWK-OVER 5 HOURS/WK	The pupil does more than 5 hours homework per week.
	SOURCE: TS
	HOME LANGUAGE—3
LANGUAGE USED-ENGLISH	The pupil indicated that only English is used in the home.
LANGUAGE USED-TWO LANGUAGES	• English is the most often spoken in the home, but another language is also spoken. • Another language is used most often.

GROUP LABEL	CATEGORY TITLE—NUMBER OF GROUPS Group Definition—SOURCE of Data
LANGUAGE USED-NON-ENG.	A language other than English is the only language spoken.
	SOURCE: TS
	PARENTS' EDUCATION—4 (Grade 11)
PARENT NO H.S.	Neither parent went to high school.
PARENT SOME H.S.	At least one parent went to high school but neither graduated.
PARENT H.S. GRAD.	At least one parent graduated from high school.
PARENT POST H.S.	At least one parent had some post high school education.
	SOURCE: TS
	PUPIL'S EDUCATIONAL EXPECTATIONS—4 (Grade 11)
	Pupil expects to:
EXP. GRAD. H.S.	Graduate from high school.
EXP. VOC, TECH, TRADE	Go to a vocational, technical, trade, or business school.
EXP. JR. COLLEGE	Go to a two-year or junior college.
EXP. FOUR-YR. COLLEGE OR MORE	Go to a four-year college or university and/or go to a graduate or professional school after college.
	SOURCE: TS

APPENDIX B

DATA TABLES—STUDENT PERFORMANCE

PERCENT OF EIGHTH GRADE STUDENTS MASTERING CAREER EDUCATION CATEGORIES BY REPORTING GROUPS

Categories	District Type								Family Income		Reading Materials				Homework			Home Language			
	Statewide Results	Urban	Other Central City	Fast Growing Suburb	Stable Suburb	1000 ADA + Non-Metro	Town Non-Metro	Rural	Eligible Free/ Reduced Price	Not Eligible	None or One Type	Two Types	Three Types	All Four Types	Not Done	Less than 5 Hrs. per wk.	Over 5 Hrs. per week	English Only	Mostly English	Mostly Other Language	Other Language Only
1. Career Planning and Decision Making	59	51*	57	68*	58	59	62	59	38*	68*	32*	47*	56*	72*	37*	61*	70*	65*	54*	43*	26*
2. Career and Occupational Information	39	34*	39	46*	34*	39	41	38	22*	46*	17*	25*	37*	51*	21*	40	48*	44*	35*	24*	12*
3. Job Acquisition and Retention Skills	38	35*	39	44*	36	37	44	33*	23*	44*	19*	26*	36*	48*	27*	39	44*	43*	33*	24*	13*
4. Attitudes and Appreciation for Career Success	53	49*	51	62*	51	51	56	52	34*	61*	28*	40*	51*	66*	34*	55*	62*	58*	49*	36*	25*
5. Skills in Human Relationships	73	70*	73	79*	69*	72	72	71	58*	78*	52*	62*	72	82*	54*	74*	82*	77*	69*	56*	48*
6. Self-Investigation and Evaluation	54	48*	53	62*	51	55	59	49*	34*	61*	27*	36*	51*	66*	32*	55	64*	58*	52	36*	27*
7. Personal/Work/Societal Responsibilities	66	60*	70	75*	65	69	72	66	50*	75*	46*	54*	67	79*	48*	70*	76*	72*	66	56*	43*
8. Economic Factors Influencing Career Opportunity	31	27*	30	38*	29	29	32	28	16*	37*	10*	18*	28*	42*	20*	31	37*	36*	26*	16*	6*
9. Education/Career Opportunity Relationships	58	55*	59	65*	54	57	54	56	41*	64*	35*	47*	56*	69*	41*	59	66	63*	52*	44*	30*

*Indicates that the percentage figure shown is above or below the statewide percentage and the difference in the two is statistically significant.

Categories	TV Watching						Spec. Ed.		Comp. Ed.	
	Statewide Results	None	1-2 Hours	2-3 Hours	3-4 Hours	Over 4 Hours	Participates	Does Not Participate	Participates	Does Not Participate
1. Career Planning and Decision Making	59	63*	63*	62*	60	46*	19*	61*	29*	63*
2. Career and Occupational Information	39	44*	43*	40	38	28*	9*	41*	17*	42*
3. Job Acquisition and Retention Skills	38	39	41*	41*	37	29*	19*	39*	18*	41*
4. Attitudes and Appreciation for Career Success	53	57*	56*	56*	54	39*	19*	56*	29*	56*
5. Skills in Human Relationships	73	74	76*	74	72	66*	30*	74*	46*	76*
6. Self-Investigation and Evaluation	54	59*	59*	56	52	39*	19*	55*	28*	57*
7. Personal/Work/Societal Responsibilities	68	72	72*	71	68	58*	24*	70*	43*	71*
8. Economic Factors Influencing Career Opportunity	31	35*	35*	31	28	21*	7*	32*	11*	33*
9. Education/Career Opportunity Relationships	56	62*	63*	59	54*	46*	26*	59*	35*	61*

PERCENT OF ELEVENTH GRADE STUDENTS MASTERING CAREER EDUCATION CATEGORIES BY REPORTING GROUPS

Categories	Statewide Results	District Type							Family Income		Reading Materials				Homework			Home Language			
		Urban	Other Central City	Fast Growing Suburb	Stable Suburb	1000 ADA + Non-Metro	Town Non-Metro	Rural	Eligible Free/ Reduced Price	Not Eligible	None or One Type	Two Types	Three Types	All Four Types	Not Done	Less than 5 Hrs. per wk.	Over 5 Hrs. per week	English Only	Mostly English	Mostly Other Language	Other Language Only
1. Career Planning and Decision Making	82	77*	82	86*	86*	80*	77	85	64*	86*	57*	66*	78*	89*	71*	83	88*	86*	82	70*	51*
2. Career and Occupational Information	68	65	68	77*	69	63*	63	67	44*	72*	30*	48*	62*	76*	56*	66	75*	71*	66	49*	35*
3. Job Acquisition and Retention Skills	66	64*	66	75*	72*	62*	60*	64*	43*	72*	40*	50*	62*	76*	57*	66	73*	72*	61*	51*	36*
4. Attitudes and Appreciation for Career Success	78	75*	77	86*	80	74*	75	78	56*	82*	49*	61*	74*	86*	70*	79	84*	82*	74*	59*	50*
5. Skills in Human Relationships	89	86	86	90	92*	86*	86	87	78*	90*	69*	79*	87	93*	81*	90*	92*	90*	90	83*	65*
6. Self-Investigation and Evaluation	77	72*	76	84*	79	73*	74	78	53*	81*	45*	60*	70*	85*	63*	76	84*	80*	76	62*	43*
7. Personal/Work/Societal Responsibilities	86	86	86	89*	86	85	81	86	73*	89*	66*	74*	83*	92*	77*	86*	89*	86*	86	80*	66*
8. Economic Factors Influencing Career Opportunity	62	57*	63	67*	67*	57*	59	64	38*	66*	31*	43*	57*	70*	55*	61	69*	66*	59*	44*	27*
9. Education/Career Opportunity Relationships	78	76	77	83*	80	76*	71*	78	59*	82*	52*	66*	73*	85*	69*	78	84*	81*	75	64*	48*

*Indicates that the percentage figure shown is above or below the statewide percentage and the difference in the two is statistically significant.

Categories	TV Watching						Grade Average					Parental Education				Educational Expectations			
	Statewide Results	None	1-2 Hours	2-3 Hours		Over 4 Hours	Mostly A	Mostly A & B	Mostly B	Mostly B & C	Mostly C and Below	No High School	Some High School	High School Graduate	Post High School	Graduate from High School	Vocational/ Tech/Trade	Junior College	Four Year College or More
1. Career Planning and Decision Making	82	86*	83	83	79*	72*	96*	92*	89*	78*	67*	71*	78*	78*	91*	85*	83	82	91*
2. Career and Occupational Information	86	73*	70*	86	81*	55*	93*	82*	75*	59*	45*	52*	60*	61*	80*	46*	86	83*	80*
3. Job Acquisition and Retention Skills	86	72*	70*	86	81*	54*	87*	79*	74*	59*	52*	49*	57*	62*	79*	51*	86	86	77*
4. Attitudes and Appreciation for Career Success	78	81*	79	79	75	69*	95*	89*	83*	71*	64*	63*	67*	75*	88*	60*	79	76	87*
5. Skills in Human Relationships	89	91*	90	86	87	81*	95*	96*	92*	86*	80*	81*	86	87	93*	78*	86	86	94*
6. Self-Investigation and Evaluation	77	81*	79*	76	71*	64*	96*	89*	82*	70*	59*	61*	66*	74*	87*	57*	77	74	87*
7. Personal/Work/Societal Responsibilities	86	89*	87*	86	82*	79*	96*	94*	89*	82*	77*	80*	80*	83*	92*	74*	86	84	93*
8. Economic Factors Influencing Career Opportunity	62	66*	65*	62	52*	47*	89*	77*	64	52*	45*	46*	50*	55*	74*	40*	61	56*	74*
9. Education/Career Opportunity Relationships	78	81*	81*	77	66*	66*	94*	89*	81	72*	64*	66*	73*	74*	86*	62*	76	76	87*

APPENDIX C

TEXAS ASSESSMENT PROJECT
PUPIL INFORMATION

(To be completed by the school)

Information about pupil number:

Grade

- ○ 5
- ○ 8
- ○ 11

Sex

- ○ M
- ○ F

Ethnicity

- ○ Black
- ○ Mexican American
- ○ Other

1. Participation in any program under the National School Lunch and Child Nutrition Program.

	YES	NO
Is the pupil eligible for free meals?	○	○
Is the pupil for reduced price meals?	○	○

2. Participation in special programs. Mark YES or NO to indicate whether or not the pupil participates in the program listed.

	YES	NO
SPECIAL EDUCATION Grades 5, 8, & 11	○	○
COMPENSATORY EDUCATION Grades 5 & 8 Only (Title I Regular, Title I Migrant, or State Compensatory Education)	○	○

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	YES	NO
Mark YES or NO to indicate whether or not this form was completed.	○	○

○ ○ ○ ○ ○ ○ ○ ○ ○
○ ○ ○ ○ ○ ○ ○ ○ ○
○ ○ ○ ○ ○ ○ ○ ○ ○
○ ○ ○ ○ ○ ○ ○ ○ ○
○ ○ ○ ○ ○ ○ ○ ○ ○

APPENDIX D

TAILSHEET INFORMATION

(Completed by the Student)

1. Does your family get a newspaper regularly?
   A. Yes
   B. No
   C. I don't know.
   D. I prefer not to answer.

2. Does your family get any magazines regularly?
   A. Yes
   B. No
   C. I don't know.
   D. I prefer not to answer.

3. Are there more than 25 books in your home?
   A. Yes
   B. No
   C. I don't know.
   D. I prefer not to answer.

4. Is there an encyclopedia in your home?
   A. Yes
   B. No
   C. I don't know.
   D. I prefer not to answer.

5. How much television did you watch last night?
   A. None
   B. One hour or less.
   C. 1 to 2 hours
   D. 2 to 3 hours
   E. 3 to 4 hours
   F. 4 to 5 hours
   G. 5 to 6 hours
   H. Six hours or more.
   I. I prefer not to answer.

6. Approximately what is the average amount of time you spend on homework a week?
   A. No homework is ever assigned.
   B. I have homework, but I don't do it.
   C. Less than 5 hours a week.
   D. Between 5 and 10 hours a week.
   E. More than 10 hours a week.
   F. I prefer not to answer.

7. Which sentence best describes the language spoken in your home?
   A. We always speak English.
   B. We always speak another language.
   C. We speak English most of the time.
   D. We speak another language most of the time.
   E. I prefer not to answer.

* 8. How would you describe the grades you have made since you entered high school?
   A. Mostly A's
   B. Mostly A's and B's
   C. Mostly B's
   D. Mostly B's and C's
   E. Mostly C's
   F. Mostly below C
   G. I prefer not to answer.

* 9. How much school did your father complete? (FILL IN THE ONE OVAL which best shows how much school your father completed.)
   A. Did not complete the 8th grade.
   B. Completed the 8th grade, but did not go to high school.
   C. Went to high school, but did not graduate from high school.
   D. Graduated from high school.
   E. Some education after graduation from high school.
   F. I don't know.
   G. I prefer not to answer.

*10. How much school did your mother complete? (FILL IN THE ONE OVAL which best shows how much school your mother completed.)

A. Did not complete the 8th grade.
B. Completed the 8th grade, but did not go to high school.
C. Went to high school, but did not graduate from high school.
D. Graduated from high school.
E. Some education after graduation from high school.
F. I don't know.
G. I prefer not to answer.

*11. How much schooling do you think you will get? Do you expect to:

A. Graduate from high school.
B. Go to vocational, technical, trade, or business school.
C. Go to a two-year or junior college.
D. Go to a four-year college or university.
E. Go to a graduate or professional school after college.
F. I prefer not to answer.

* Indicates questions that were asked of 11th graders only.

APPENDIX E

PRINCIPAL'S QUESTIONNAIRE ITEMS

Please describe your high school's effort in career education by responding to each of the following questions:

		YES	NO
A.	Does your school board have a written policy for implementing career education?	☐	☐
B.	Is there a written plan (which includes resources) for continued implementation of career education in your school?	☐	☐
C.	Is the principal designated as coordinator of career education in your high school?	☐	☐
D.	Has someone other than the principal been designated as coordinator of career education in your high school?	☐	☐
E.	Is there a career education advisory body which includes representatives from the community, and which has met one or more times this year to help plan career education activities?	☐	☐
F.	Have basic learner outcomes for career education been established and communicated to teachers?	☐	☐
G.	Has your school or district conducted an assessment of student achievement in career education?	☐	☐
H.	Do teachers have materials for teaching career education concepts and competencies?	☐	☐
I.	Does your school offer a specific course in career education?	☐	☐
J.	Have you used community representatives directly in your career education activities in the last two years?	☐	☐

Has inservice in career education been provided for the following: (Check all that apply.)

English Teachers	☐	Health Teachers	☐
Foreign Language Teachers	☐	Physical Education Teachers	☐
Business Education Teachers	☐	Counselors	☐
Social Studies Teachers	☐	Administrative Staff	☐
Fine Arts Teachers	☐	Instructional Aides	☐
Mathematics Teachers	☐	Other (Specify _____)	☐
Science Teachers	☐	None of the above	☐
Vocational Education Teachers (including Industrial Arts)	☐		

APPENDIX F

STUDENT QUESTIONNAIRE ITEMS

Since entering high school, have you:

YES	NO		
○	○	A.	Worked *part-time* (less than 35 hours per week) in a job for pay for four weeks or more?
○	○	B.	Worked *full-time* (35 hours or more per week) in a job for pay for four weeks or more?
○	○	C.	Worked in a job which the school helped you to find?
○	○	D.	Talked with one or more of your high school teachers about your career planning?
○	○	E.	Talked with one or more other school staff members about your career planning (such as principal, counselor, cafeteria worker, secretary, coach, nurse, or librarian)?
○	○	F.	Obtained information about career opportunities from the school library or the guidance office?
○	○	G.	Obtained information about career opportunities on your own from sources outside your high school?

Was the material on this test covered in one or more of your courses in the following subject areas?

YES	NO		
○	○	A.	English
○	○	B.	Foreign Language
○	○	C.	Social Studies
○	○	D.	Mathematics
○	○	E.	Science
○	○	F.	Health
○	○	G.	Physical Education
○	○	H.	Vocational Education (such as: Homemaking, D.E., Industrial Arts)
○	○	I.	Business Education

Do you feel that your high school experience and course work have helped you develop in each of the following ways:

Very Helpful	Somewhat Helpful	Not Very Helpful		
○	○	○	A.	Knowing about jobs and work after graduation
○	○	○	B.	Developing skills useful for many kinds of jobs
○	○	○	C.	Improving your sense of responsibility
○	○	○	D.	Knowing your own abilities
○	○	○	E.	Deciding on and planning a career
○	○	○	F.	Deciding on further education
○	○	○	G.	Learning how to get a job
○	○	○	H.	Improving your ability to work well with others

PERCENT OF HIGH SCHOOL PRINCIPALS REPORTING CAREER EDUCATION IMPLEMENTATION ACTIONS TAKEN FOR THE STATE AND SEVEN TYPES OF SCHOOL DISTRICTS

Career Education Implementation Actions	Statewide Results	District Type						
		Urban	Other Central City	Fast Grow. Suburb	Stable Suburb	1000 ADA + Non-Metro	Town Non-Metro	Rural
School board has written policy for implementing career education	57	86	77	86	78	62	46	48
School district has a written plan to continue implementing career education	56	81	81	82	72	65	44	47
Principal is designated as the coordinator for career education	42	37	36	23	30	37	45	51
Someone other than principal is designated as the coordinator of career education	51	65	49	59	67	58	43	44
Career education advisory body—community help plan—career education	27	55	40	33	36	32	22	13
Basic learner outcomes for career education communicated to teachers	49	80	47	44	56	52	47	39
Conducted an assessment of student achievement in career education	37	68	35	43	32	42	39	22
Materials available for teaching career education	79	88	76	86	88	83	70	77
School offers a specific course in career education	21	40	20	28	22	17	20	17
Used community representatives directly in career education activities	80	93	82	90	91	85	80	67

PERCENT OF HIGH SCHOOL PRINCIPALS REPORTING CAREER EDUCATION INSERVICE TRAINING PROVIDED TO TEACHERS BY SUBJECT AREA FOR THE STATE AND SEVEN TYPES OF SCHOOL DISTRICTS

Teachers and School Staff Provided Career Education Inservice Training	Statewide Results	District Type						
		Urban	Other Central City	Fast Growth Suburb	Stable Suburb	1000 ADA + Non-Metro	Town Non-Metro	Rural
English teachers	43	47	36	42	46	44	46	39
Foreign Language teachers	22	39	21	27	23	35	26	7
Business Education teachers	59	82	64	47	69	60	61	52
Social Studies teachers	58	70	62	51	63	51	60	53
Fine Arts teachers	23	40	27	27	27	31	24	9
Mathematics teachers	39	46	40	34	38	39	46	34
Science teachers	40	48	40	34	38	41	40	38
Vocational Education teachers (including industrial arts)	73	82	86	71	82	73	78	64
Health teachers	42	43	42	31	50	47	47	37
Physical Education teachers	35	38	27	25	25	39	39	37
Counselors	66	86	70	75	84	79	70	43
Administrative staff	59	74	53	49	66	59	66	54
Instructional aides	22	23	14	18	17	23	30	22

PERCENTAGES OF ELEVENTH GRADE STUDENTS REPORTING CAREER EDUCATION RELATED ACTIVITIES FOR THE STATE AND BY SEX, ETHNICITY, TYPE OF SCHOOL DISTRICT, AND FAMILY INCOME

Career Education-Related Student Activities	Statewide Results	Sex		Ethnicity			District Type							Family Income	
		Male	Female	Black	Mexican American	Other	Urban	Other Central City	Fast Grow. Suburb	Stable Suburb	1000 ADA + Non-Metro	Town Non-Metro	Rural	Eligible	Not Eligible
Student worked part-time (< 35 hours per week)	63	70	57	56	48	66	63	63	66	66	56	62	58	49	66
Student worked full-time (35 or more hours per week)	24	32	16	22	17	27	22	24	24	24	23	33	34	19	25
School helped student find job	10	10	10	17	13	6	11	10	6	9	13	11	11	18	9
Student talked with teacher about career planning	49	49	53	54	48	48	49	50	48	48	50	47	48	48	49
Talked with other staff about career planning	45	42	47	44	41	46	41	40	50	43	46	41	40	40	46
Obtained career information from school	41	39	44	43	41	41	40	38	46	38	41	43	42	40	42
Obtained career information outside of school	70	70	70	66	66	72	71	71	73	69	66	64	66	66	71

PERCENTAGES OF ELEVENTH GRADE STUDENTS RATING EIGHT ASPECTS OF THE SCHOOLS' CAREER EDUCATION PROGRAMS FOR THE STATE AND BY SEX, ETHNICITY, TYPE OF SCHOOL DISTRICT, AND FAMILY INCOME

Program Rating Items	Statewide Results	Sex		Ethnicity			District Type							Family Income	
		Male	Female	Black	Mexican American	Other	Urban	Other Central City	Fast Growing Suburb	Stable Suburb	1000 ADA + Non-Metro	Town Non-Metro	Rural	Eligible	Not Eligible
School is helpful in knowing about jobs and work	38	37	40	56	48	32	43	40	34	39	40	34	34	49	36
School is helpful in developing job skills	37	37	38	43	42	35	40	37	36	40	37	38	30	41	37
School is helpful in developing sense of responsibility	60	54	67	65	67	58	61	59	61	61	60	58	58	64	60
School is helpful in knowing one's own abilities	57	53	61	63	61	55	58	57	58	60	56	53	47	59	57
School is helpful in planning a career	36	33	40	48	47*	31	36	40	33	37	39	30	26	47	36
School is helpful in deciding on further education	45	42	49	52	47	44	49	48	49	45	42	38	32	45	46
School is helpful in learning how to get a job	32	29	35	52	42	25	34	33	25	36	34	28	31	45	29
School is helpful in improving ability to work with others	58	52	65	68	68	54	60	60	55	59	59	58	56	64	57

APPENDIX H

METHOD TO COMPUTE PERFORMANCE SCORE

To avoid misinterpretation with the percentage of *students* mastering a category, as reported in Section III of this report, and to prevent the index reported being dependent on the number of categories or objectives measured in the total test, an aggregated student performance score was developed. This score, which is termed "Aggregated Student Performance Score" is computed as follows:

$$\text{Aggregated Student Performance Score} = 100 \text{ (times) } \left[\text{Average Number of Categories Mastered per student divided by the total number of categories}\right]$$

$$= 100 \times \left[\frac{\text{Average of Number of Categories Mastered per Student}}{9}\right]$$

For example, if the average number of categories mastered per student is *6*, then the Aggregated Student Performance Score is 67 percent, that is

$$\text{Aggregated Student Performance Score} = 100 \times \left[\frac{6}{9}\right] = 67\%$$

Note that the aggregated student performance score IS NOT a measure of the percentage of students having a specified attribute, but is instead an index of student performance for the complete Career Education Measurement Instrument. The aggregated score has a range of value from 0 to 100 score points with 100 being the "best" or highest possible student performance. The aggregated student performance score was selected for this section of the report over the percentage of students mastering a category to reduce the number of results needed to compare student performance between the selected sub-populations which is the primary purpose of the analysis. An alternative interpretation of the aggregated score, which IS NOT used in this report, is the percent of categories mastered by the *average* or typical student.

APPENDIX I

THE CEMS SURVEY TEST

BACKGROUND

During the fall of 1975, the Texas Education Agency conducted an assessment of career education utilizing a test developed under a contract with Measurement Research Center of the Westinghouse Learning Corporation. This test, called the Career Education Measurement Series (CEMS) Survey Test, was administered to ninth and twelfth grade students. In an attempt to provide diagnostic information to school officials, responses to the test were placed in 26 sub-categories of the nine major career education categories, and student performance was reported according to the percentage of students mastering each sub-category. The 1975 results were reported for the total statewide sample of students, for males and females, and for the three major ethnic subpopulations. This same Survey Test was again administered in 1979 as a part of Phase II of the Texas Assessment Project.

SPECIAL CONSIDERATIONS

There are two important differences between the student samples tested in 1975 and those tested in 1979 that preclude direct comparison of student performance on the two assessments. These are:

1. School districts participating in the 1975 assessment did so on a voluntary basis. Several districts that were selected for the assessment were unable to participate. These included the Houston, Galveston, and El Paso school districts. For the 1979 assessment, both schools and students were selected on a random basis to assure that the results would be representative of student attainment statewide and all of the schools and students selected agreed to participate.

2. Ninth and twelfth graders were tested during the months of November and December in 1975. For the 1979 assessment, eighth and eleventh grade students were tested in April. These grade-level and testing time differentials resulted in the students tested in 1975 having approximately four months more schooling than did the students tested in 1979.

STUDENT PERFORMANCE CRITERIA

The Survey Test consists of 52 separate response items. Each of the 26 sub-categories is measured by one, two, or three responses. Student performance is reported as the percent of students mastering each of the 26 sub-categories. To attain mastery of a sub-category, a student must answer correctly 60 percent of the responses. For those sub-categories measured by one response, one correct answer is required for mastery. This criterion applied to student data in both 1975 and 1979.

The 26 career education sub-categories measured by the CEMS Survey Test are:

CAREER EDUCATION SUB-CATEGORIES

1. Goal Setting
2. Lifestyle
3. Assistance in Decision-making
4. Occupational Supply and Demand
5. Career Education
6. Job Characteristics
7. Job Characteristics
8. Job Location and Interview Skills
9. Job Retention Skills and Understandings
10. Attitudes Toward Work
11. Appreciation for Quality Work
12. Interpersonal Relationships Skills
13. Human Relationship Skills
14. Group Dynamics Skills
15. Personal Adjustment and Problem Solving
16. Understanding Self-Concept
17. Career Interests and Capabilities
18. Responsibilities within the Work Environment
19. Responsibilities and Rights Derived from Political/Societal Environment
20. Developing Positive Attitudes and Behaviors for Participation in the Political/Societal Environment
21. Effects of Technology
22. Job Specialization and Worker Interdependence
23. Use of Money and Resources
24. Supply and Demand
25. Relationships of Education (formal and informal) to Career Opportunity
26. Relationships of Learning Experiences (in school or out) to Career Opportunity

STATEWIDE RESULTS, 1979 and 1975

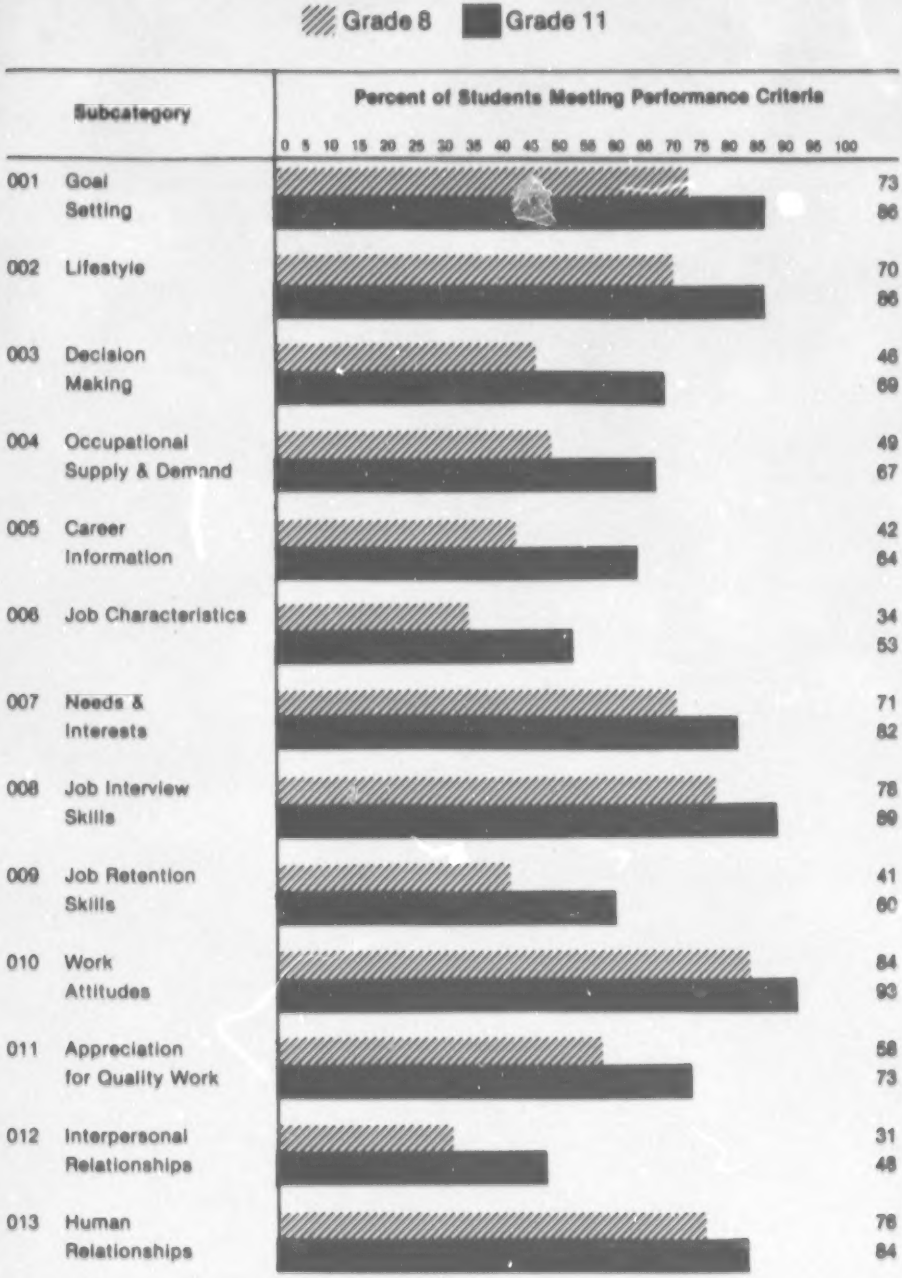
Figures 1A and 1B show the percentages of eighth and eleventh grade students who demonstrated mastery of the 26 sub-categories during the 1979 assessment. Figures 2A and B show the percentages of ninth and twelfth grade students tested in 1975 who demonstrated mastery of the sub-categories.

Because of the sampling dissimilarities noted previously (pages 81 and 82 this appendix), direct comparisons of student performance in 1979 with that of students in 1975 should not be made. However, it is possible and appropriate to look at the performance of students during the two assessments and make comparisons of a global nature.

The pattern of performance established by ninth and twelfth grade students in 1975 corresponded very closely to that of eighth and eleventh grade students in 1979 was slightly above those of ninth graders in 1975. For the remainder of the sub-categories, the mastery percentages of 1975 ninth graders were slightly higher than those of 1979 eighth graders. The performance of 1975 twelfth grade students was slightly above that of 1979 eleventh graders on all of the sub-categories.

These results are not considered to indicate either a general increase or decrease in student attainment since 1975. The results do suggest that overall student development in terms of career education has probably not changed dramatically during the 1975-1979 period. Those sub-categories on which students performed poorly in 1975 were the same sub-categories on which students performed poorly in 1979. Reference is made to sub-categories 005, 006, 012, 022, 024 in Figures 1A and B and 2A and B of this appendix.

STATEWIDE STUDENT PERFORMANCE
PERCENT MASTERY FOR SUB-CATEGORIES, 1979



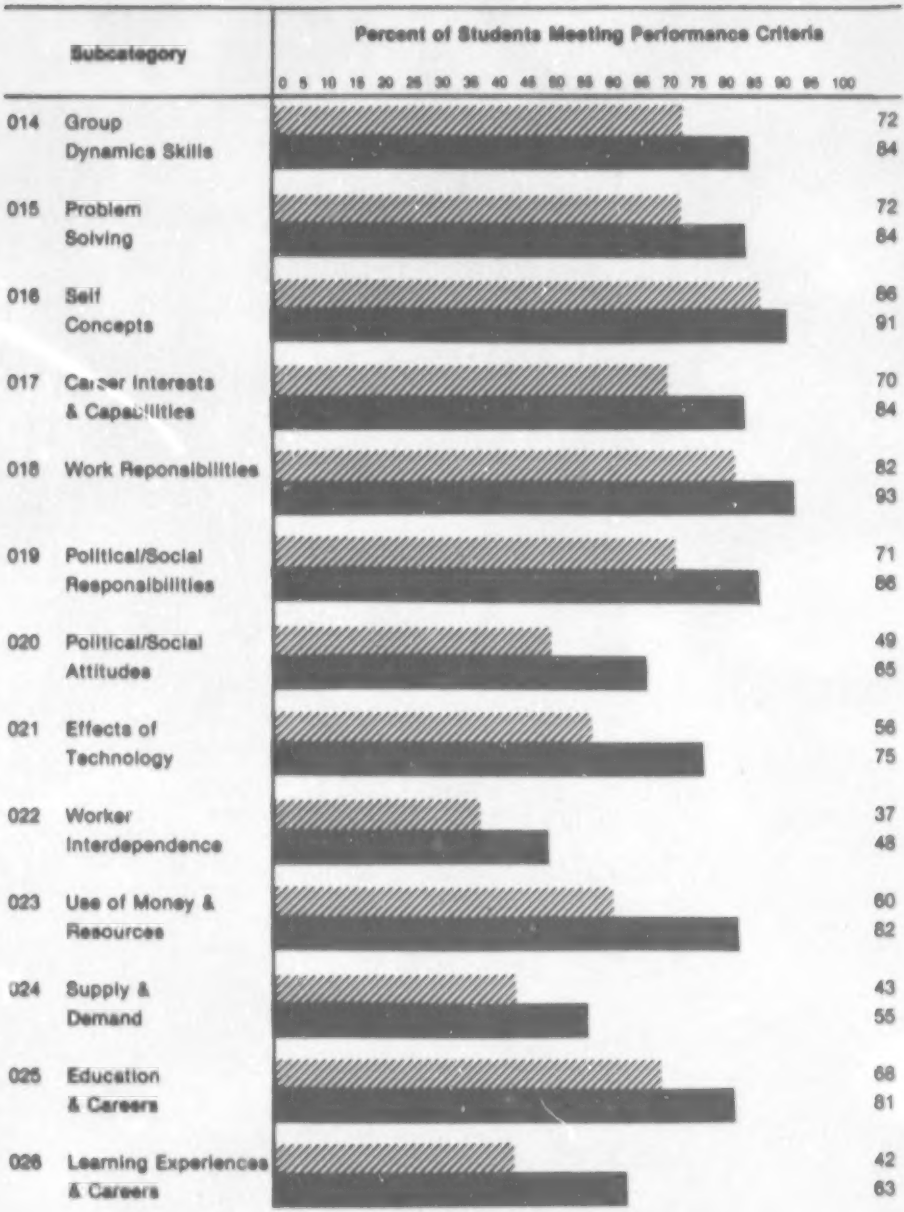
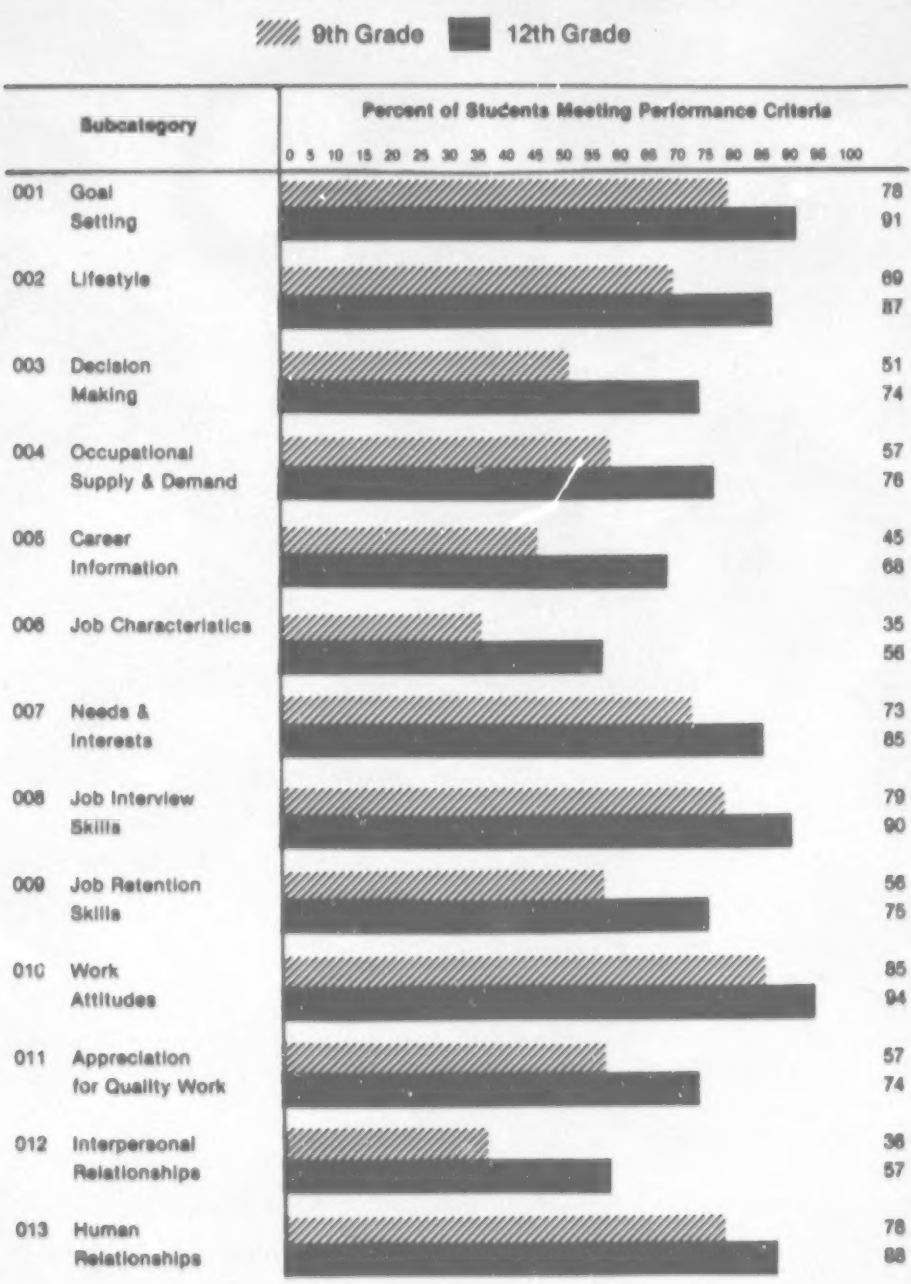

Subcategory
Percent of Students Meeting Performance Criteria
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100
014 Group Dynamics Skills
72
84
015 Problem Solving
72
84
016 Self Concepts
86
91
017 Career Interests & Capabilities
70
84
018 Work Reponsibilities
82
93
019 Political/Social Responsibilities
71
86
020 Political/Social Attitudes
49
65
021 Effects of Technology
56
75
022 Worker Interdependence
37
48
023 Use of Money & Resources
60
82
024 Supply & Demand
43
55
025 Education & Careers
68
81
026 Learning Experiences & Careers
42
63

Figure 1

STATEWIDE STUDENT PERFORMANCE
PERCENT MASTERY FOR SUB-CATEGORIES, 1975



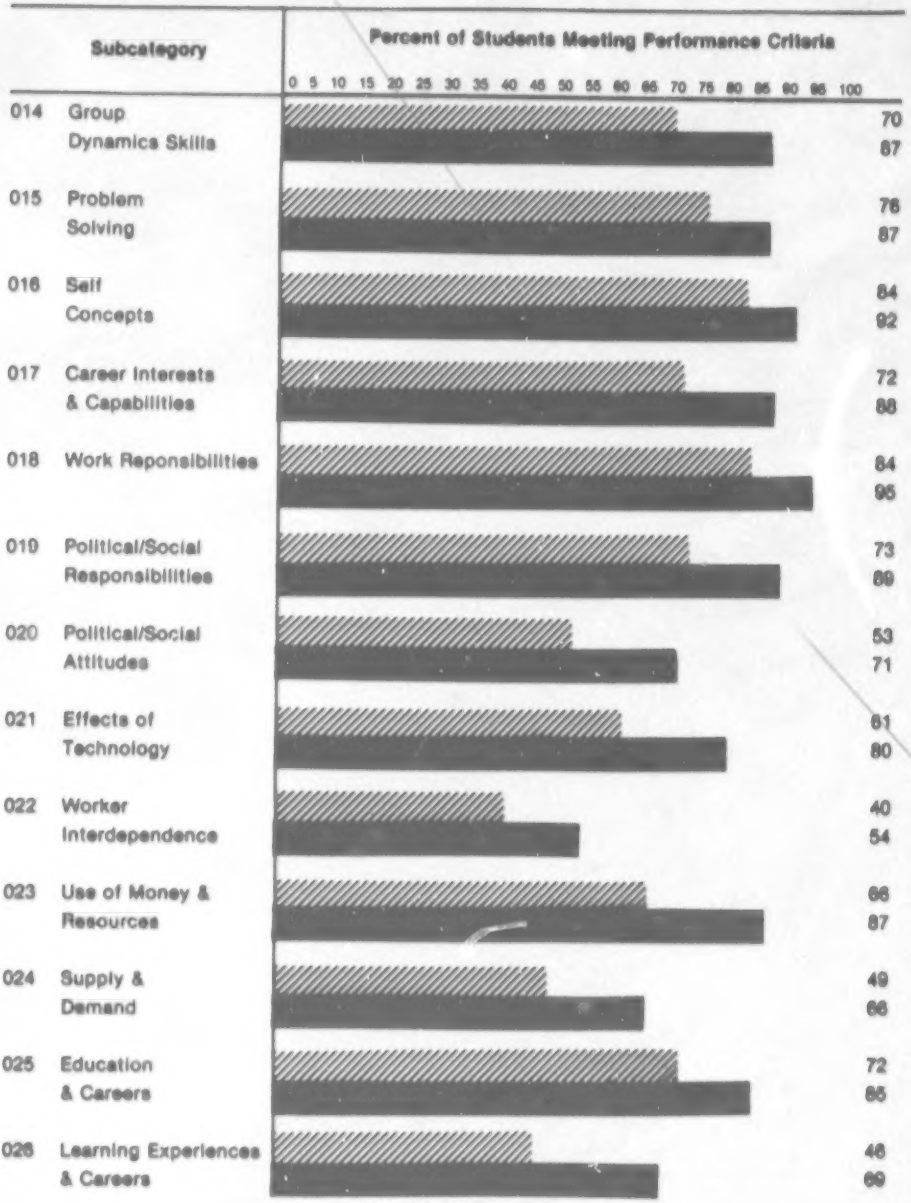

Subcategory
Percent of Students Meeting Performance Criteria
0 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100
014 Group Dynamics Skills
70
87
015 Problem Solving
76
87
016 Self Concepts
84
92
017 Career Interests & Capabilities
72
88
018 Work Reponsibilities
84
95
019 Political/Social Responsibilities
73
89
020 Political/Social Attitudes
53
71
021 Effects of Technology
81
80
022 Worker Interdependence
40
54
023 Use of Money & Resources
86
87
024 Supply & Demand
49
66
025 Education & Careers
72
85
026 Learning Experiences & Careers
46
69

Figure 2

This apparent lack of change in performance after a period of almost four years raises two important questions:

1. What was done to improve career education efforts as a result of the 1975 assessment?

2. What can be done now to use the results of the 1979 assessment contained in the body of this report to improve student learning in the areas where weaknesses are shown to exist?

PEROFRMANCE BY SEX AND ETHNICITY, 1979

Eighth and eleventh grade student performance for males and females and for the three ethnic groups is shown in Tables I and II.

Sex: For eighth graders, the mastery percentages attained by females were higher than those for males on 22 of the 26 sub-categories. Differences ranged from 2 to 13 percentage points.

Differences in male and female performance at the eleventh grade tended to be narrower than was true at the eighth grade. However, females continued to out perform males on 22 of the 26 sub-categories. Differences ranged between 1 and 10 percentage points.

Ethnicity: The percentages of "other" students mastering the sub-categories exceeded those of Mexican American and black students on 23 sub-categories for the eighth grade and 25 sub-categories for the eleventh grade.

The percentages of black students mastering the sub-categories exceeded those of Mexican American students on two sub-categories for grade eight and one sub-category for grade eleven.

TABLE I
CAREER EDUCATION SURVEY TEST
STATEWIDE PERFORMANCE FOR GRADE 11 BY SEX AND ETHNICITY
1979

		Goal Setting	Lifestyle	Decision Making	Occupational Supply & Demand	Career Information	Job Characteristics	Needs & Interests	Job Interview Skills	Job Retention Skills	Work Attitudes	Appreciation for Quality Work	Interpersonal Relationships	Human Relationships	Group Dynamics Skills	Problem Solving	Self Concepts	Career Interests & Capabilities	Work Responsibilities	Political/Social Responsibilities	Political/Social Attitudes	Effects of Technology	Worker Interdependence	Use of Money & Resources	Supply & Demand	Education & Careers	Learning Experiences & Careers
		001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	016	017	018	019	020	021	022	023	024	025	026
STATEWIDE RESULTS		73	70	46	49	42	34	71	78	41	84	58	31	76	72	72	86	70	82	71	49	58	37	60	43	66	42
SEX	Male	71	68	40	46	37	29	70	73	40	80	53	29	74	68	68	84	65	78	70	47	56	36	60	45	66	37
	Female	76	72	52	52	48	38	73	84	42	90	62	33	79	79	76	88	75	86	72	51	58	36	60	42	70	47
ETHNICITY	Black	57	61	29	31	30	25	58	64	35	72	41	20	69	57	54	74	54	70	58	32	41	30	37	27	54	28
	Mexican American	64	58	35	35	36	31	58	73	33	81	48	27	71	64	60	80	62	74	61	38	45	29	46	31	56	31
	Other	81	76	54	59	48	37	80	83	46	89	66	36	80	79	81	91	77	87	79	58	65	42	71	52	76	50

TABLE II
CAREER EDUCATION SURVEY TEST
STATEWIDE PERFORMANCE FOR GRADE 11 BY SEX AND ETHNICITY
1979

		Goal Setting	Lifestyle	Decision Making	Occupational Supply & Demand	Career Information	Job Characteristics	Needs & Interests	Job Interview Skills	Job Retention Skills	Work Attitudes	Appreciation for Quality Work	Interpersonal Relationships	Human Relationships	Group Dynamics Skills	Problem Solving	Self Concepts	Career Interests & Capabilities	Work Responsibilities	Political/Social Responsibilities	Political/Social Attitudes	Effects of Technology	Worker Interdependence	Use of Money & Resources	Supply & Demand	Education & Careers	Learning Experiences & Careers
		001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	016	017	018	019	020	021	022	023	024	025	026
STATEWIDE RESULTS		86	86	69	67	64	53	82	89	60	93	73	48	84	84	84	91	84	93	86	66	75	48	82	56	81	63
SEX	Male	86	84	63	63	59	46	79	87	61	90	68	45	81	80	82	89	80	91	84	65	74	46	83	55	81	58
	Female	87	89	75	72	69	58	84	92	59	95	78	50	86	88	85	93	89	95	88	65	76	50	82	55	81	68
ETHNICITY	Black	70	74	47	45	50	32	69	80	45	84	55	29	72	69	69	85	68	84	77	40	56	29	60	43	66	43
	Mexican American	80	84	64	58	57	44	75	90	53	92	68	44	80	82	74	91	80	92	85	55	70	38	78	43	78	55
	Other	92	90	78	78	69	61	87	92	65	95	79	53	88	88	90	92	90	95	89	74	81	58	89	61	88	71

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